

## NEWFIELD



March 3, 2005

RECEIVED  
MAR 04 2005  
DIV. OF OIL, GAS & MINING

State of Utah  
Division of Oil, Gas & Mining  
Attn: Diana Whitney  
1594 West North Temple - Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Applications for Permit to Drill: Federal 2-7-9-18, 8-8-9-18, 9-8-9-18, and  
11-8-9-18.

Dear Diana:

Enclosed find APD's on the above referenced wells. If you have any questions, feel free to give either Brad or myself a call.

Sincerely,

Mandie Crozier  
Regulatory Specialist

mc  
enclosures

RECEIVED

MAR 04 2005

Form 3160-3  
(September 2001)FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

UTU-16540

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA Agreement, Name and No.

N/A

8. Lease Name and Well No.

Federal 11-8-9-18

9. API Well No.

43-047-36344

10. Field and Pool, or Exploratory

Eight Mile Flat

11. Sec., T., R., M., or Blk. and Survey or Area

NE/SW Sec. 8, T9S R18E

12. County or Parish

Uintah

13. State

UT

1a. Type of Work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

Newfield Production Company

3a. Address

Route #3 Box 3630, Myton UT 84052

3b. Phone No. (include area code)

(435) 646-3721

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*

At surface NE/SW 1984' FSL 1979' FWL 592212X 40.043632  
At proposed prod. zone 4432949Y - 109.919073

14. Distance in miles and direction from nearest town or post office\*

Approximatley 18.9 miles southeast of Myton, Utah

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)

Approx. 1984' f/lse, NA f/unit

16. No. of Acres in lease

1356.44

17. Spacing Unit dedicated to this well

40 Acres

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.

Approx. 1,024'

19. Proposed Depth

5950'

20. BLM/BIA Bond No. on file

UTU0056

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

5043' GL

22. Approximate date work will start\*

3rd Quarter 2005

23. Estimated duration

Approximately seven (7) days from spud to rig release.

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

Mandie Crozier

Date

3/3/05

Title

Regulatory Specialist

Approved by (Signature)

Name (Printed/Typed)

BRADLEY G. HILL

Date

03-10-05

Title

ENVIRONMENTAL SCIENTIST III

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

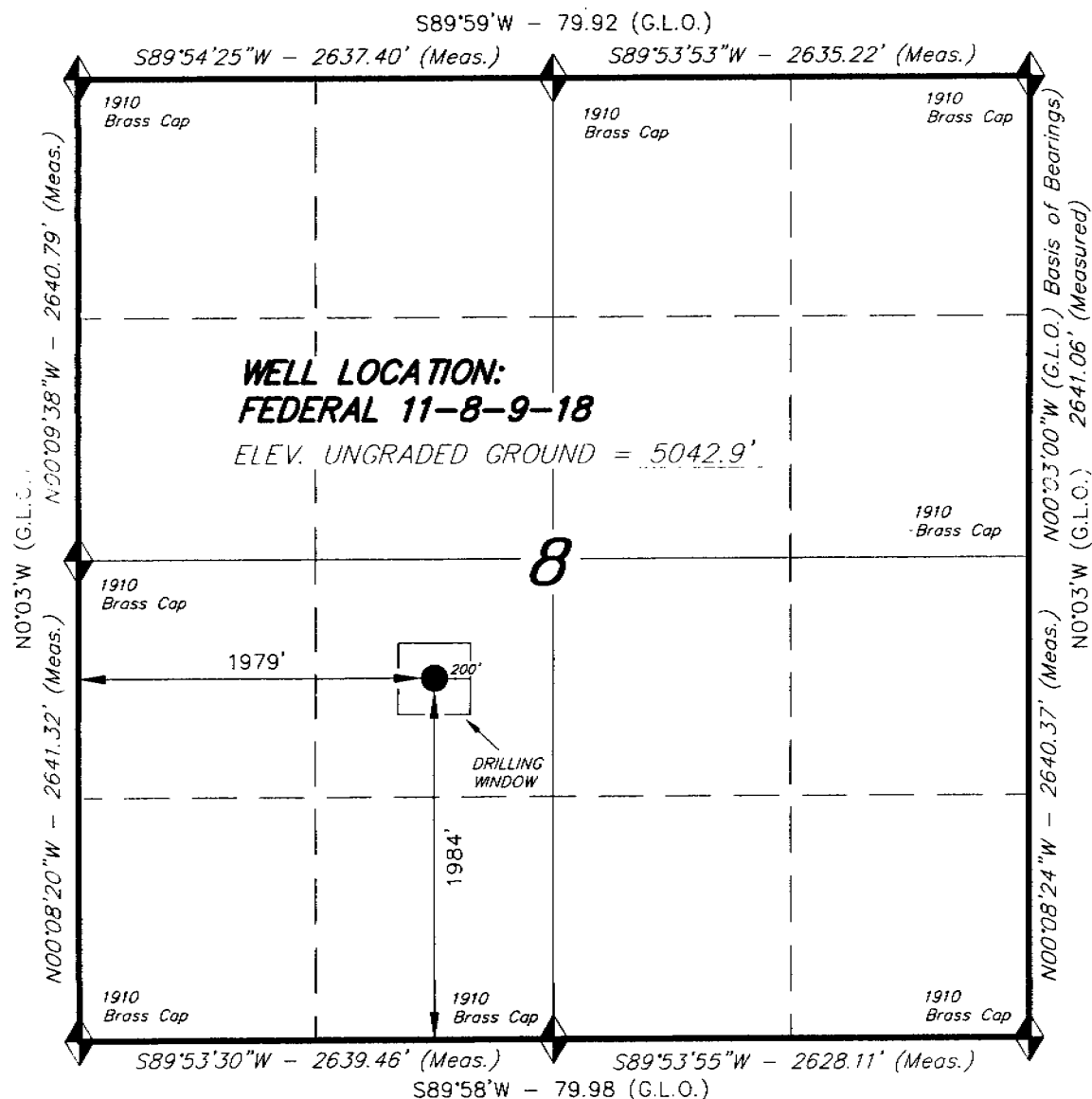
\*(Instructions on reverse)

Federal Approval of this  
Action is Necessary

# T9S, R18E, S.L.B.&M.

## NEWFIELD PRODUCTION COMPANY

WELL LOCATION, FEDERAL 11-8-9-18,  
LOCATED AS SHOWN IN THE NE 1/4 SW  
1/4 OF SECTION 8, T9S, R18E, S.L.B.&M.  
UINTAH COUNTY, UTAH.

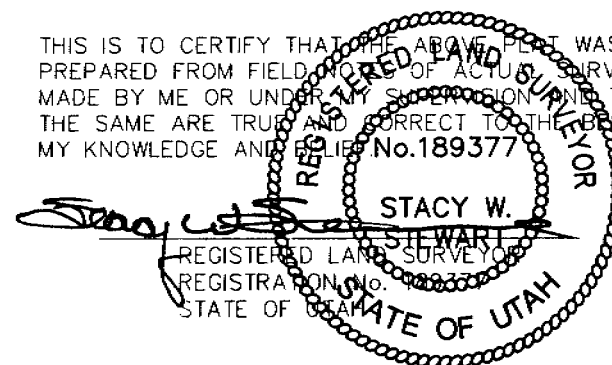


◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (PARIETTE DRAW SW)



THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF No.189377



### TRI STATE LAND SURVEYING & CONSULTING

180 NORTH VERNAL AVE. - VERNAL, UTAH 84078  
(435) 781-2501

SCALE: 1" = 1000'

SURVEYED BY: D.J.S.

DATE: 9-24-04

DRAWN BY: F.T.M.

NOTES:

FILE #

NEWFIELD PRODUCTION COMPANY  
FEDERAL #11-8-9-18  
NE/SW SECTION 8, T9S, R18E  
UINTAH COUNTY, UTAH

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. GEOLOGIC SURFACE FORMATION:

Uinta formation of Upper Eocene Age

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:

Uinta	0' – 2085'
Green River	2085'
Wasatch	5950'

3. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS:

Green River Formation 2085' – 5950' - Oil

4. PROPOSED CASING PROGRAM

Please refer to the Monument Butte Field Standard Operation Procedure (SOP).

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Please refer to the Monument Butte Field SOP. See Exhibit "C".

6. TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATION MUDS:

Please refer to the Monument Butte Field SOP.

7. AUXILIARY SAFETY EQUIPMENT TO BE USED:

Please refer to the Monument Butte Field SOP.

8. TESTING, LOGGING AND CORING PROGRAMS:

Please refer to the Monument Butte Field SOP.

9. ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:

The anticipated maximum bottom hole pressure is 1800 psi. It is not anticipated that abnormal temperatures will be encountered.

10. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS:

Please refer to the Monument Butte Field SOP.

**NEWFIELD PRODUCTION COMPANY  
FEDERAL #11-8-9-18  
NE/SW SECTION 8, T9S, R18E  
UINTAH COUNTY, UTAH**

**ONSHORE ORDER NO. 1**

**MULTI-POINT SURFACE USE & OPERATIONS PLAN**

**1. EXISTING ROADS**

See attached Topographic Map "A"

To reach Newfield Production Company well location site Federal #11-8-9-18 located in the NE 1/4 SW 1/4 Section 8, T9S, R18E, Uintah County, Utah:

Proceed southwesterly out of Myton, Utah along Highway 40 - 1.6 miles  $\pm$  to the junction of this highway and UT State Hwy 53; proceed southeasterly along Hwy 53 - 11.7 miles  $\pm$  to it's junction with an existing dirt road to the southeast; proceed southeasterly - 3.6 miles  $\pm$  to it's junction with an existing road to the northeast; proceed northeasterly - 1.4 miles  $\pm$  to it's junction with an existing road to the east; proceed easterly - 0.5 miles  $\pm$  to it's junction with an existing road to the north; proceed northwesterly - 0.1 miles  $\pm$  to it's junction with the beginning of the proposed access road; proceed along the proposed access road 180'  $\pm$  to the proposed well location.

**2. PLANNED ACCESS ROAD**

See Topographic Map "B" for the location of the proposed access road.

**3. LOCATION OF EXISTING WELLS**

Refer to Exhibit "B".

**4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

Please refer to the Monument Butte Field Standard Operating Procedure (SOP).

**5. LOCATION AND TYPE OF WATER SUPPLY**

Please refer to the Monument Butte Field SOP. See Exhibit "A".

**6. SOURCE OF CONSTRUCTION MATERIALS**

Please refer to the Monument Butte Field SOP.

**7. METHODS FOR HANDLING WASTE DISPOSAL**

Please refer to the Monument Butte Field SOP.

**8. ANCILLARY FACILITIES**

Please refer to the Monument Butte Field SOP.

**9. WELL SITE LAYOUT**

See attached Location Layout Diagram.

10. **PLANS FOR RESTORATION OF SURFACE**

Please refer to the Monument Butte Field SOP.

11. **SURFACE OWNERSHIP** - Bureau Of Land Management

12. **OTHER ADDITIONAL INFORMATION**

The Archaeological Resource Survey and Paleontological Resource Survey for this area are in the process of being completed and will be forthcoming.

For the Federal #11-8-9-18 Newfield Production Company requests 180' of disturbed area be granted in Lease UTU-16540 to allow for construction of the proposed access road. **Refer to Topographic Map "B"**. The proposed access road will be an 18' crown road (9' either side of the centerline) with drainage ditches along either side of the proposed road whether it is deemed necessary in order to handle any run-off from normal meteorological conditions that are prevalent to this area. The maximum grade will be less than 8%. There will be no culverts required along this access road. There will be barrow ditches and turnouts as needed along this road. There are no fences encountered along this proposed road. There will be no new gates or cattle guards required. All construction material for this access road will be borrowed material accumulated during construction of the access road.

Newfield Production Company requests 180' of disturbed area be granted in Lease UTU-16540 to allow for construction of the proposed gas lines. It is proposed that the disturbed area will be 50' wide to allow for construction of a 6" gas gathering line, and a 3" poly fuel gas line. Both lines will tie in to the existing pipeline infrastructure. **Refer to Topographic Map "C."** For a ROW plan of development, please refer to the Monument Butte Field SOP.

Newfield Production Company requests 180' of disturbed area be granted in Lease UTU-16540 to allow for construction of the proposed water lines. It is proposed that the disturbed area will be 50' wide to allow for construction of a buried 3" steel water injection line and a 3" poly water return line. **Refer to Topographic Map "C."** For a ROW plan of development, please refer to the Monument Butte Field SOP.

**Water Disposal**

Immediately upon first production, all produced water will be confined to a steel storage tank. If the production water meets quality guidelines, it is transported to the Ashley, Monument Butte, Jonah, and Beluga water injection facilities by company or contract trucks. Subsequently, the produced water is injected into approved Class II wells to enhance Newfield's secondary recovery project.

Water not meeting quality criteria, is disposed at Newfield's Pariette #4 disposal well (Sec. 7, T9S R19E) or at State of Utah approved surface disposal facilities.

**Threatened, Endangered, And Other Sensitive Species**

**Mountain Plover:** If new construction or surface disturbing activities are scheduled to occur between May 1 and June 15, detailed surveys of the area within 0.5 mile of the proposed location and within 300 feet of proposed access routes must be conducted to detect the presence of mountain plovers. All surveys must be conducted in accordance with the survey protocols outlined in the most recent USFWS Survey Protocol. Surveys must be completed prior to initiating new construction or surface disturbing activities. No new construction or surface disturbing activities will be allowed between March 15 and August 15 within a 0.5 mile radius of any documented mountain plover nest site.

**Burrowing Owl:** Due to the proximity of the location to active prairie dog towns, there is the potential to encounter nesting burrowing owls between April 1 and August 15. If new construction or surface disturbing activities are scheduled between April 1 and August 15, pre-construction

surveys will be conducted to detect the presence of nesting burrowing owls within 0.5 mile of any new construction or surface disturbing activity (see Vernal BLM Field Office Protocol). No new construction or surface disturbing activities will be allowed between April 1 and August 15 within a 0.5 mile radius of any active burrowing owl nest.

**Reserve Pit Liner**

Please refer to the Monument Butte Field SOP.

**Location and Reserve Pit Reclamation**

Please refer to the Monument Butte Field SOP.

The following seed mixture will be used on the topsoil stockpile, to the recontoured surface of the reserve pit, and for final reclamation: (All poundages are in pure live seed)

Shadscale	<i>Atriplex confertifolia</i>	4 lbs/acre
Scarlet globmallow	<i>Sphaeralcea concineae</i>	4 lbs/acre
Crested Wheatgrass	<i>Agropyron cristatum</i>	4 lbs/acre

**Details of the On-Site Inspection**

The proposed Federal #11-8-9-18 was on-sited on 6/17/04. The following were present; Brad Mecham (Newfield Production), David Gerbig (Newfield Production), and Byron Tolman (Bureau of Land Management). Weather conditions were clear at 70 degrees.

13. **LESSEE'S OR OPERATORS REPRESENTATIVE AND CERTIFICATION**

Representative

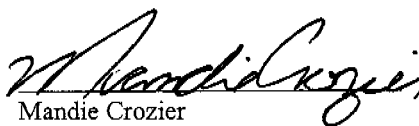
Name: Brad Mecham  
Address: Route #3 Box 3630  
Myton, UT 84052  
Telephone: (435) 646-3721

Certification

Please be advised that NEWFIELD PRODUCTION COMPANY is considered to be the operator of well #11-8-9-18 NE/SW Section 8, Township 9S, Range 18E: Lease UTU-16540 Uintah County, Utah: and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Hartford Accident #4488944.

I hereby certify that the proposed drillsite and access route have been inspected, and I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Newfield Production Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

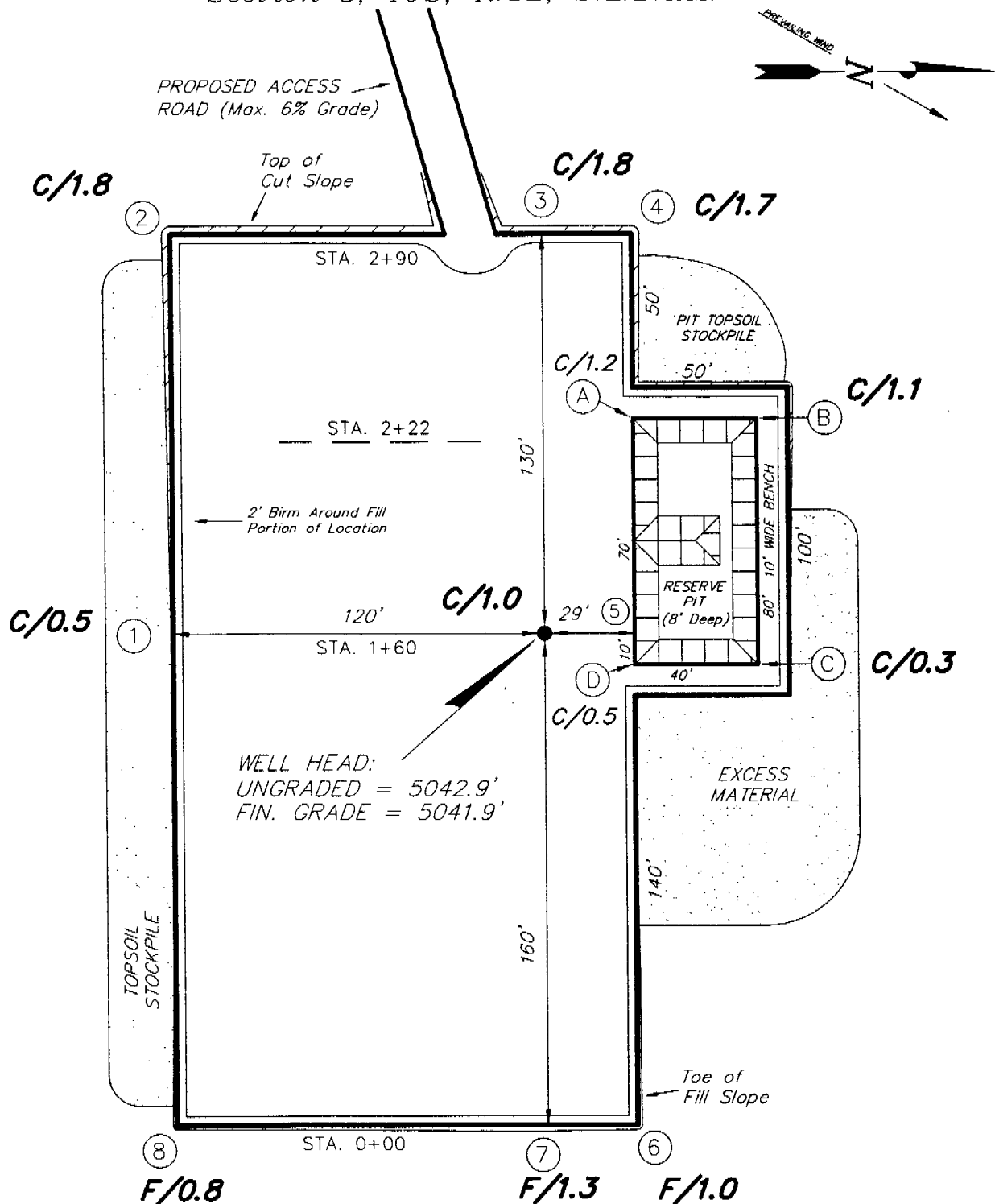
3/3/05  
Date

  
Mandie Crozier  
Regulatory Specialist  
Newfield Production Company

# NEWFIELD PRODUCTION COMPANY

FEDERAL 11-8-9-18

Section 8, T9S, R18E, S.L.B.&M.



WELL HEAD:  
UNGRADED = 5042.9'  
FIN. GRADE = 5041.9'

## REFERENCE POINTS

210' EAST = 5039.9'  
260' EAST = 5038.5'  
180' SOUTH = 5042.8'  
230' SOUTH = 5043.3'

SURVEYED BY: D.J.S.

SCALE: 1" = 50'

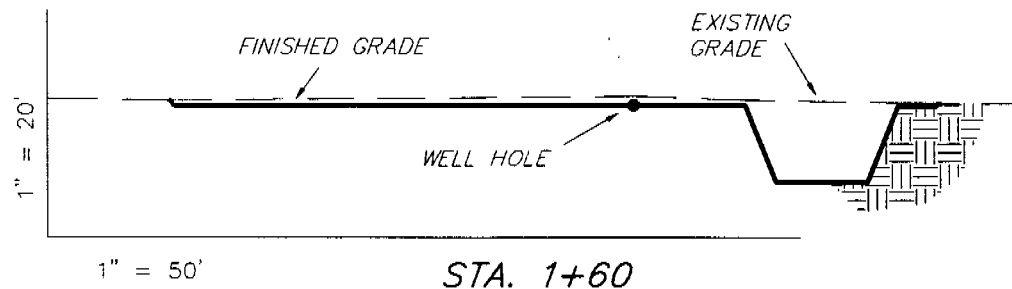
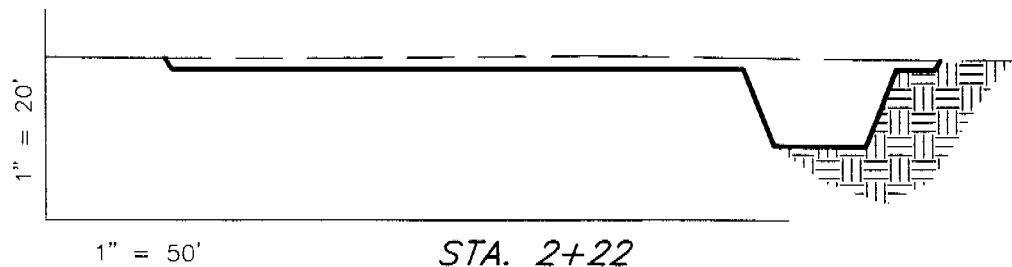
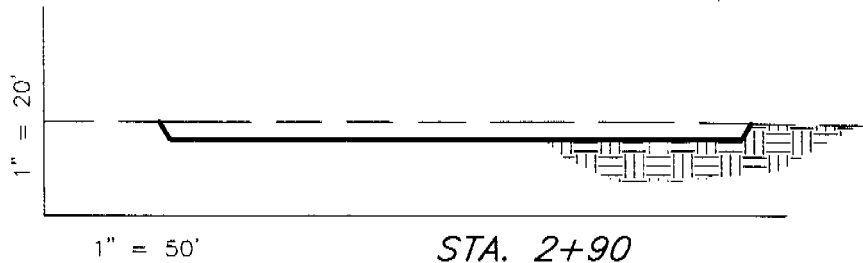
DRAWN BY: F.T.M.

DATE: 9-24-04

**Tri State**  
Land Surveying, Inc.  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
(435) 781-2501



**NEWFIELD PRODUCTION COMPANY**  
**CROSS SECTIONS**  
**FEDERAL 11-8-9-18**



NOTE:  
 UNLESS OTHERWISE NOTED  
 ALL CUT/FILL SLOPES ARE  
 AT 1.5:1

**ESTIMATED EARTHWORK QUANTITIES**  
 (No Shrink or swell adjustments have been used)  
 (Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PAD	600	590	Topsoil is not included in Pad Cut	10
PIT	640	0		640
TOTALS	1,240	590	890	650

SURVEYED BY: D.J.S.

SCALE: 1" = 50'

DRAWN BY: F.T.M.

DATE: 9-24-04

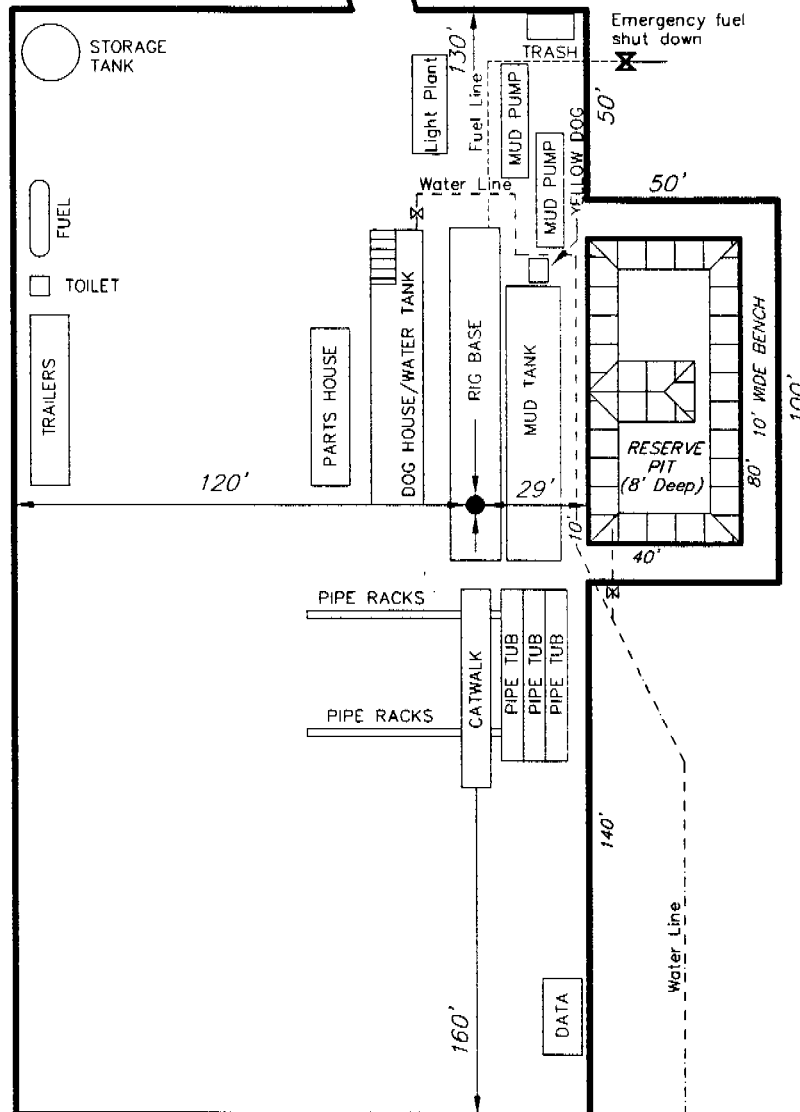
**Tri State**  
 Land Surveying, Inc.  
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
 (435) 781-2501

# NEWFIELD PRODUCTION COMPANY

## TYPICAL RIG LAYOUT

### FEDERAL 11-8-9-18

PROPOSED ACCESS  
ROAD (Max. 6% Grade)



SURVEYED BY: D.J.S.

SCALE: 1" = 50'

DRAWN BY: F.T.M.

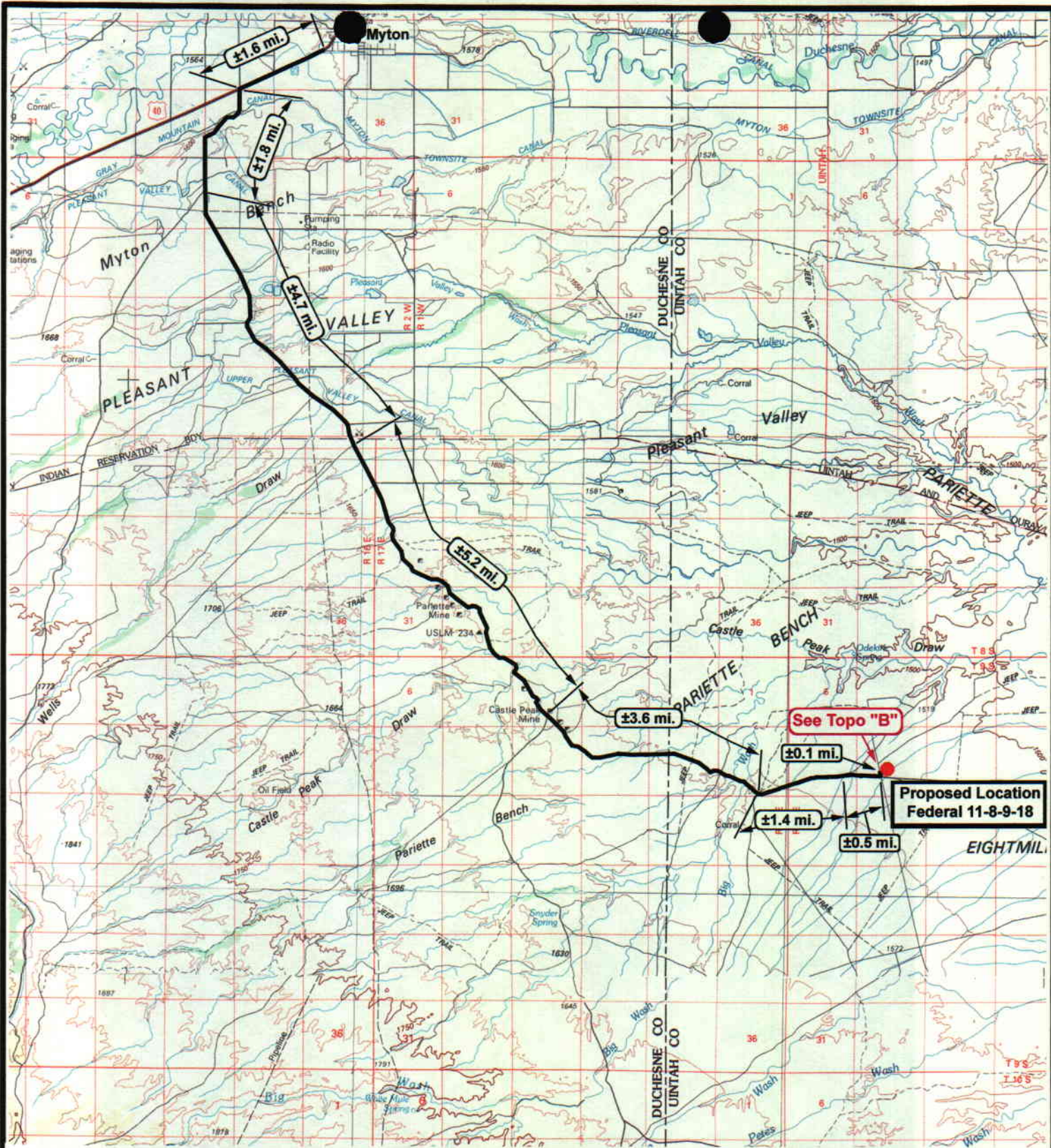
DATE: 9-24-04

**Tri State**  
Land Surveying, Inc.

(435) 781-2501

180 NORTH VERNAL AVE. VERNAL, UTAH 84078





**Federal 11-8-9-18  
SEC. 8, T9S, R18E, S.L.B.&M.**



**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

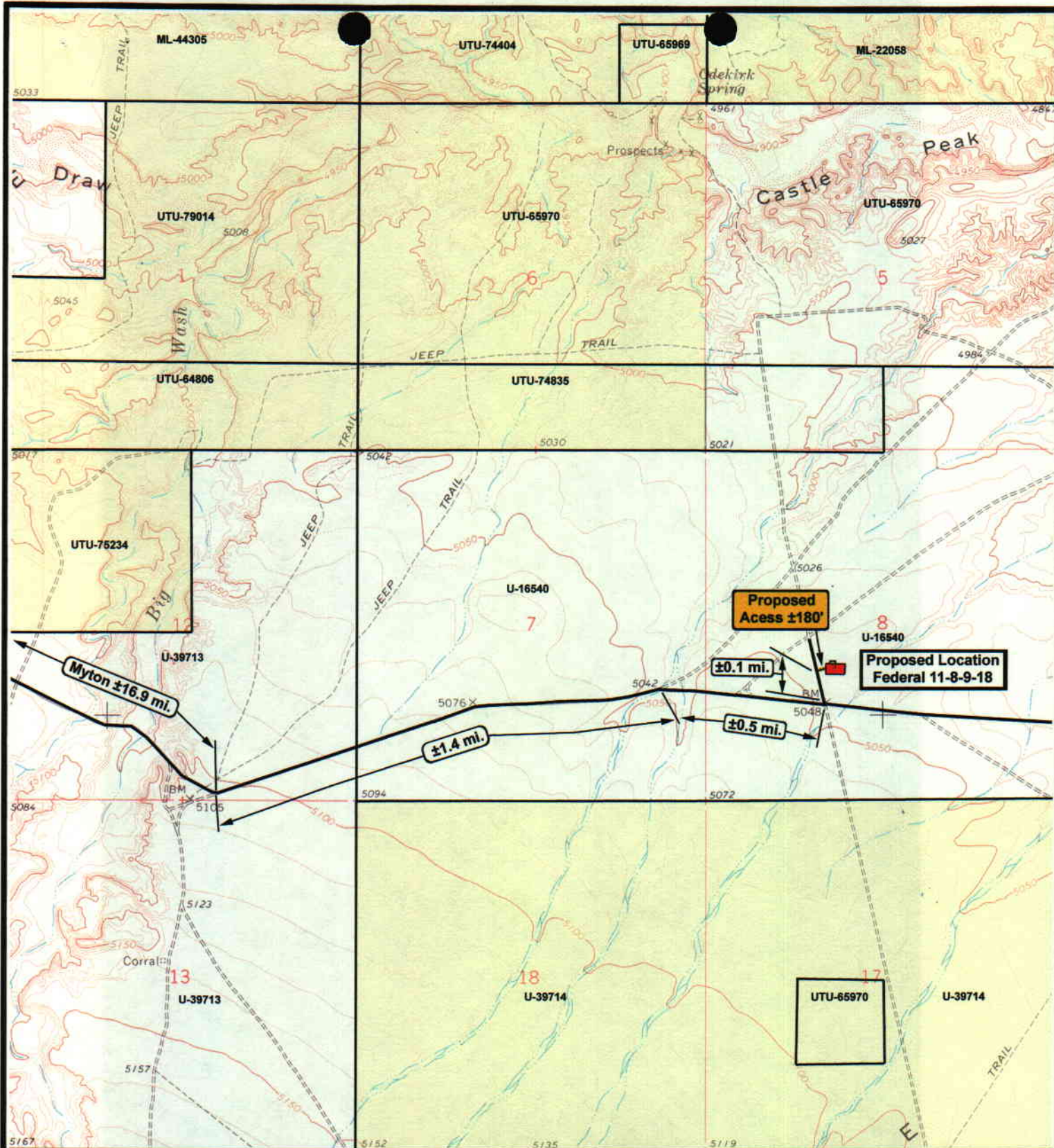
SCALE: 1 = 120,000  
DRAWN BY: F.T.M.  
DATE: 09-29-2004

**Legend**  
Existing Road  
Proposed Access

TOPOGRAPHIC MAP

**"A"**





**Federal 11-8-9-18**  
**SEC. 8, T9S, R18E, S.L.B.&M.**



**Tri-State**  
*Land Surveying Inc.*  
 (435) 781-2501  
 180 North Vernal Ave. Vernal, Utah 84078

SCALE: 1" = 2,000'  
 DRAWN BY: F.T.M.  
 DATE: 09-29-2004

**Legend**

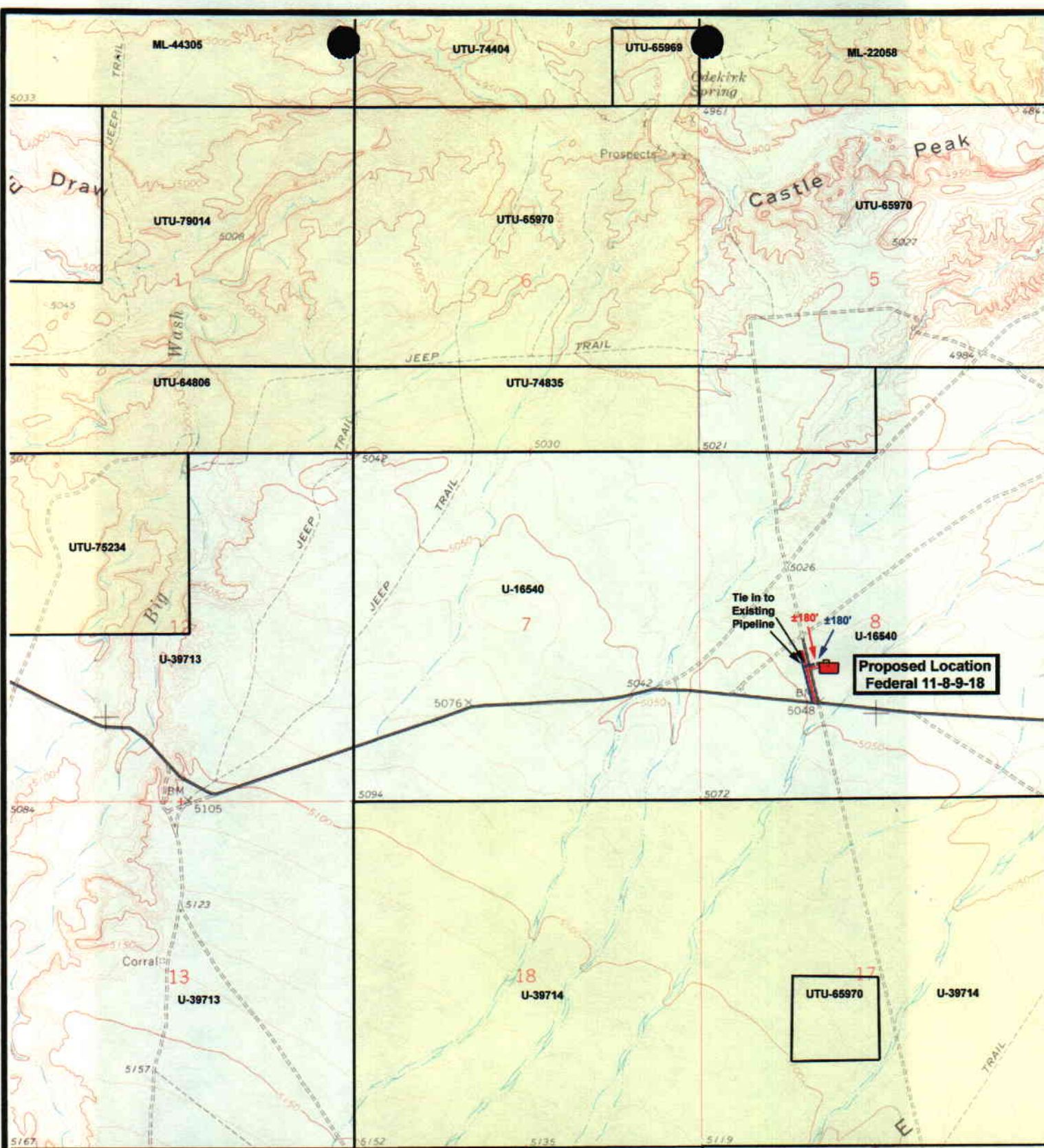
Existing Road

Proposed Access

TOPOGRAPHIC MAP

**"B"**





**Federal 11-8-9-18**  
**SEC. 8, T9S, R18E, S.L.B.&M.**



**Tri-State**  
**Land Surveying Inc.**  
 (435) 781-2501  
 180 North Vernal Ave. Vernal, Utah 84078

SCALE: 1" = 2,000'

DRAWN BY: F.T.M.

DATE: 09-29-2004

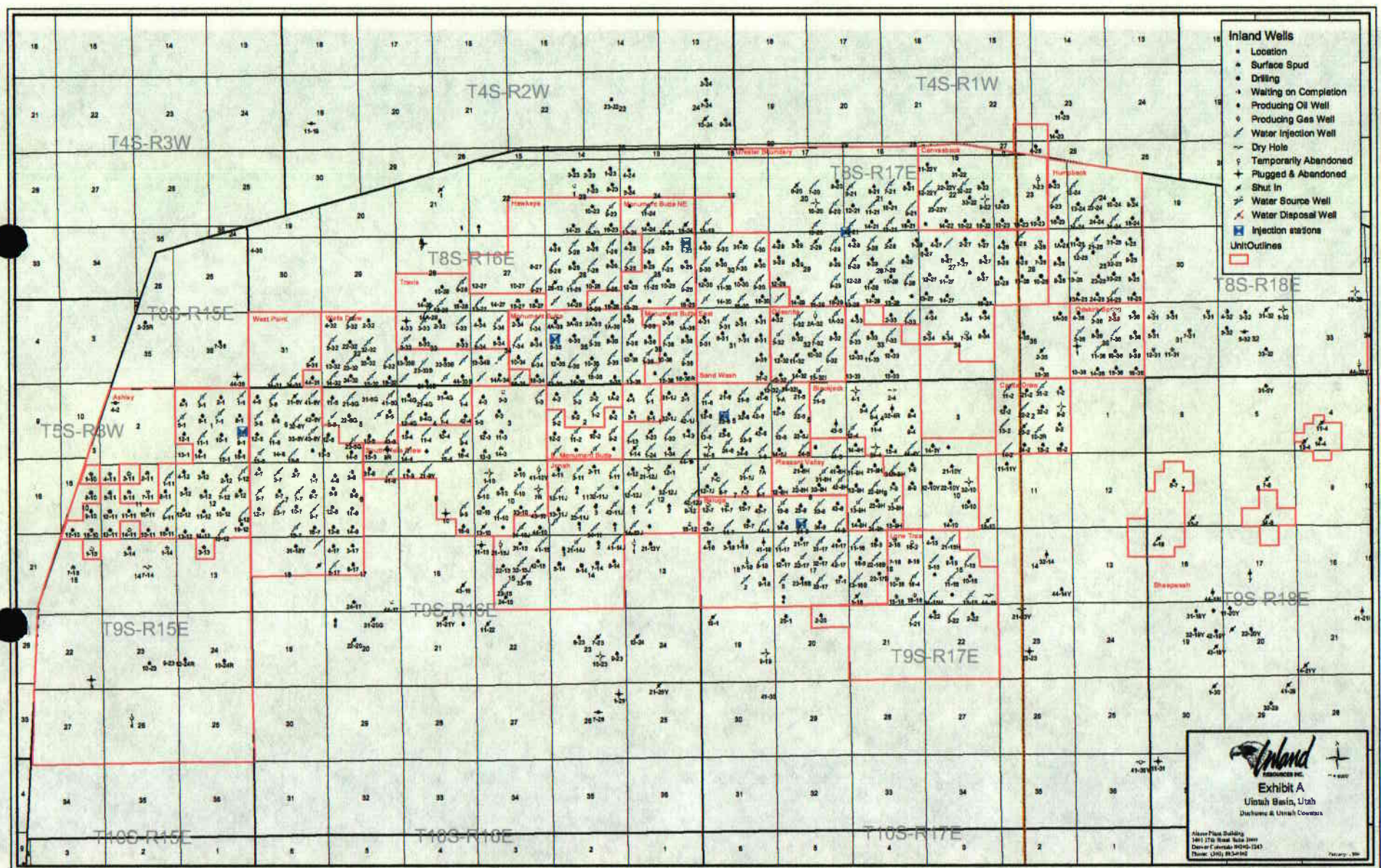
**Legend**

- Roads
- Existing Gas Line
- Proposed Gas Line
- Existing Water Line
- Proposed Water Line

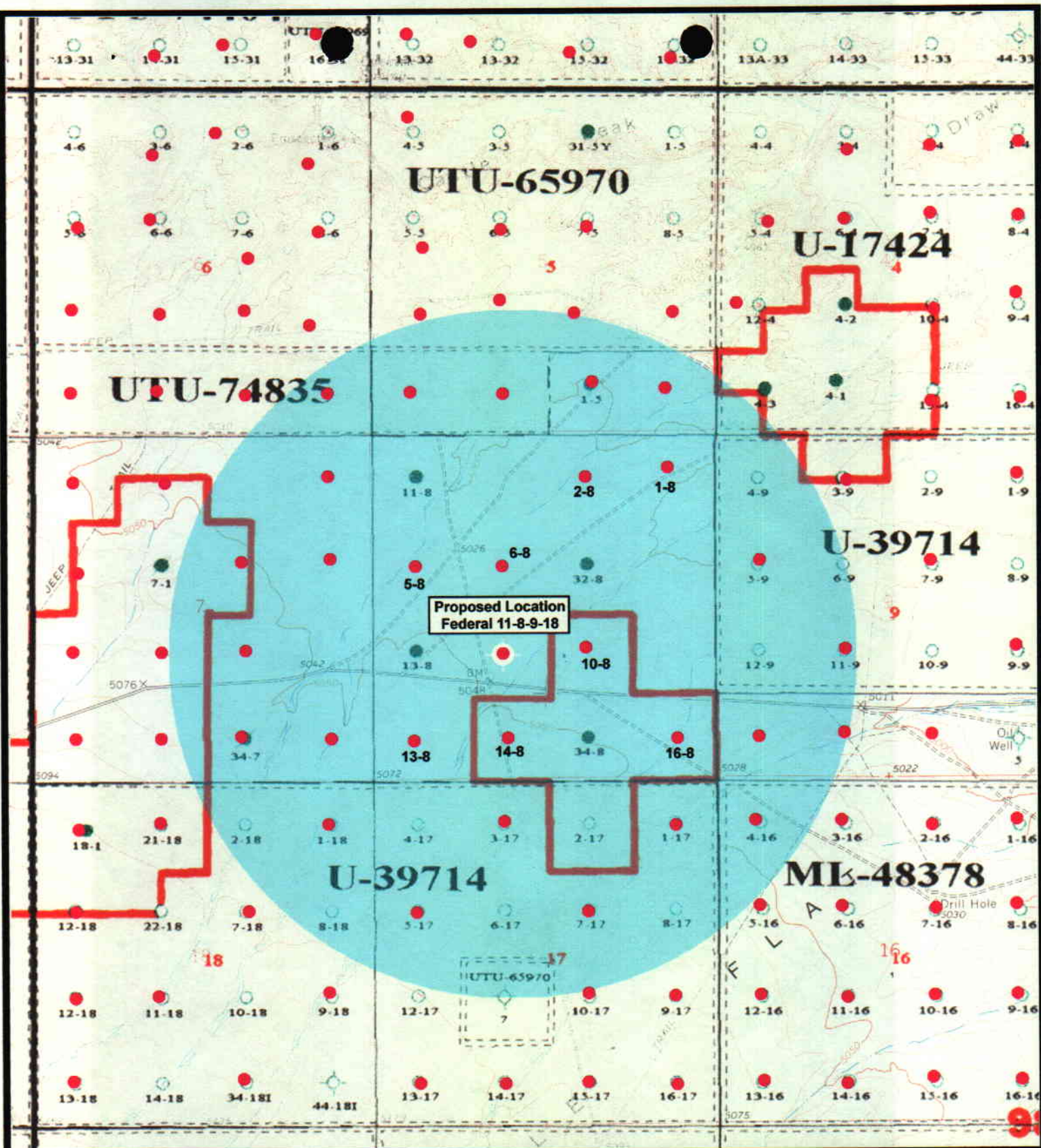
TOPOGRAPHIC MAP

**"C"**









**Federal 11-8-9-18**  
**SEC. 8, T9S, R18E, S.L.B.&M.**



**Tri-State**  
**Land Surveying Inc.**  
 (435) 781-2501  
 180 North Vernal Ave. Vernal, Utah 84078

**SCALE: 1" = 2,000'**  
**DRAWN BY: F.T.M.**  
**DATE: 09-29-2004**

**Legend**

- Location
- One-Mile Radius

**Exhibit "B"**

# 2-M SYSTEM

Blowout Prevention Equipment Systems

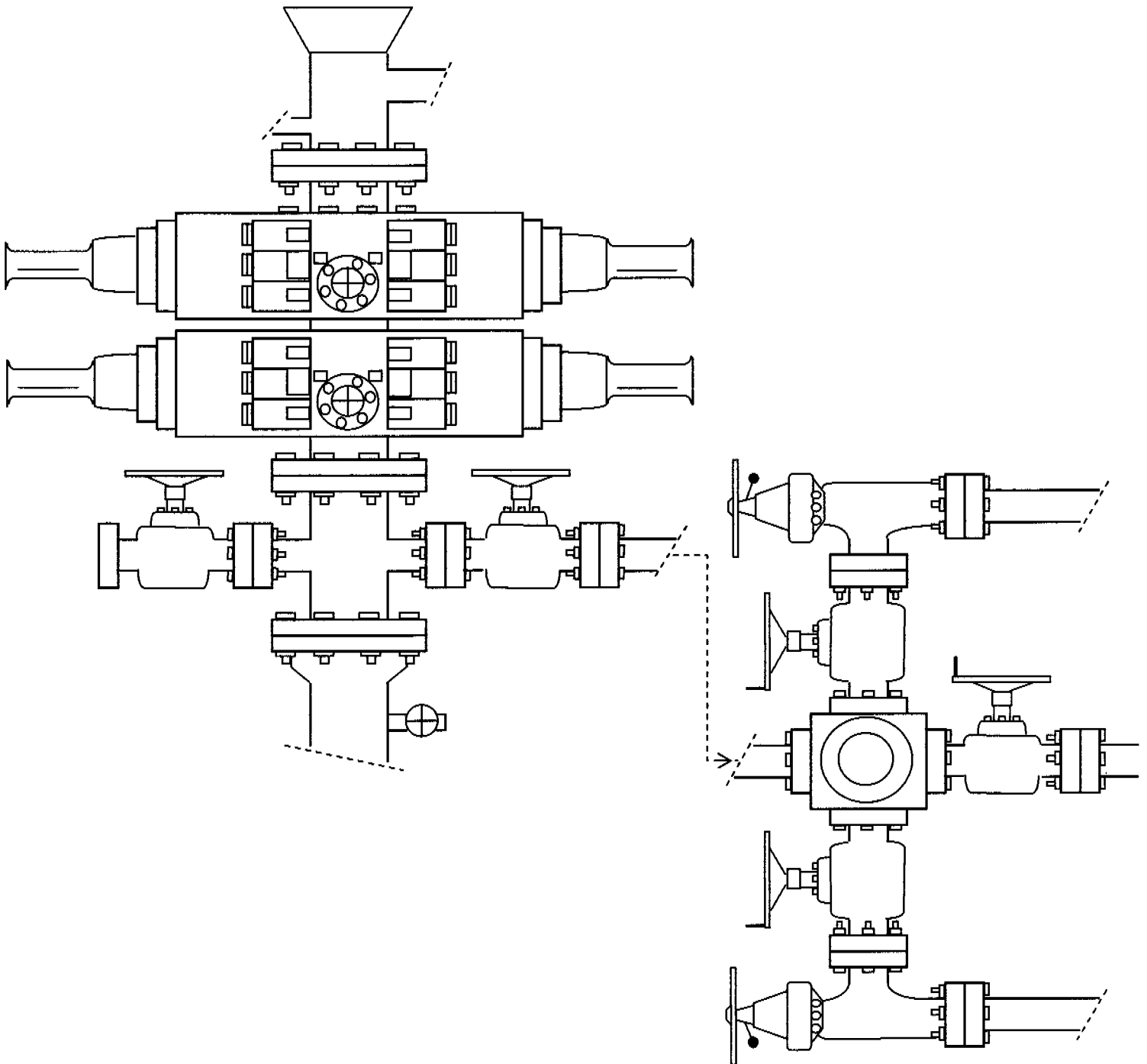


EXHIBIT C



**WORKSHEET**  
**APPLICATION FOR PERMIT TO DRILL**

003

APD RECEIVED: 03/04/2005

API NO. ASSIGNED: 43-047-36344

WELL NAME: FEDERAL 11-8-9-18

OPERATOR: NEWFIELD PRODUCTION ( N2695 )

CONTACT: MANDIE CROZIER

PHONE NUMBER: 435-646-3721

PROPOSED LOCATION:

NESW 08 090S 180E

SURFACE: 1984 FSL 1979 FWL

BOTTOM: 1984 FSL 1979 FWL

UINTAH

8 MILE FLAT NORTH ( 590 )

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-16540

SURFACE OWNER: 1 - Federal

PROPOSED FORMATION: GRRV

COALBED METHANE WELL? NO

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LATITUDE: 40.04363

LONGITUDE: -109.9191

RECEIVED AND/OR REVIEWED:

☒ Plat

☒ Bond: Fed[1] Ind[] Sta[] Fee[]  
(No. UTU0056 )

☒ Potash (Y/N)

☒ Oil Shale 190-5 (B) or 190-3 or 190-13

☒ Water Permit  
(No. MUNICIPAL )

☒ RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )

☒ Fee Surf Agreement (Y/N)

LOCATION AND SITING:

       R649-2-3.

Unit \_\_\_\_\_

☒ R649-3-2. General

Siting: 460 From Qtr/Qtr & 920' Between Wells

       R649-3-3. Exception

       Drilling Unit

Board Cause No: \_\_\_\_\_

Eff Date: \_\_\_\_\_

Siting: \_\_\_\_\_

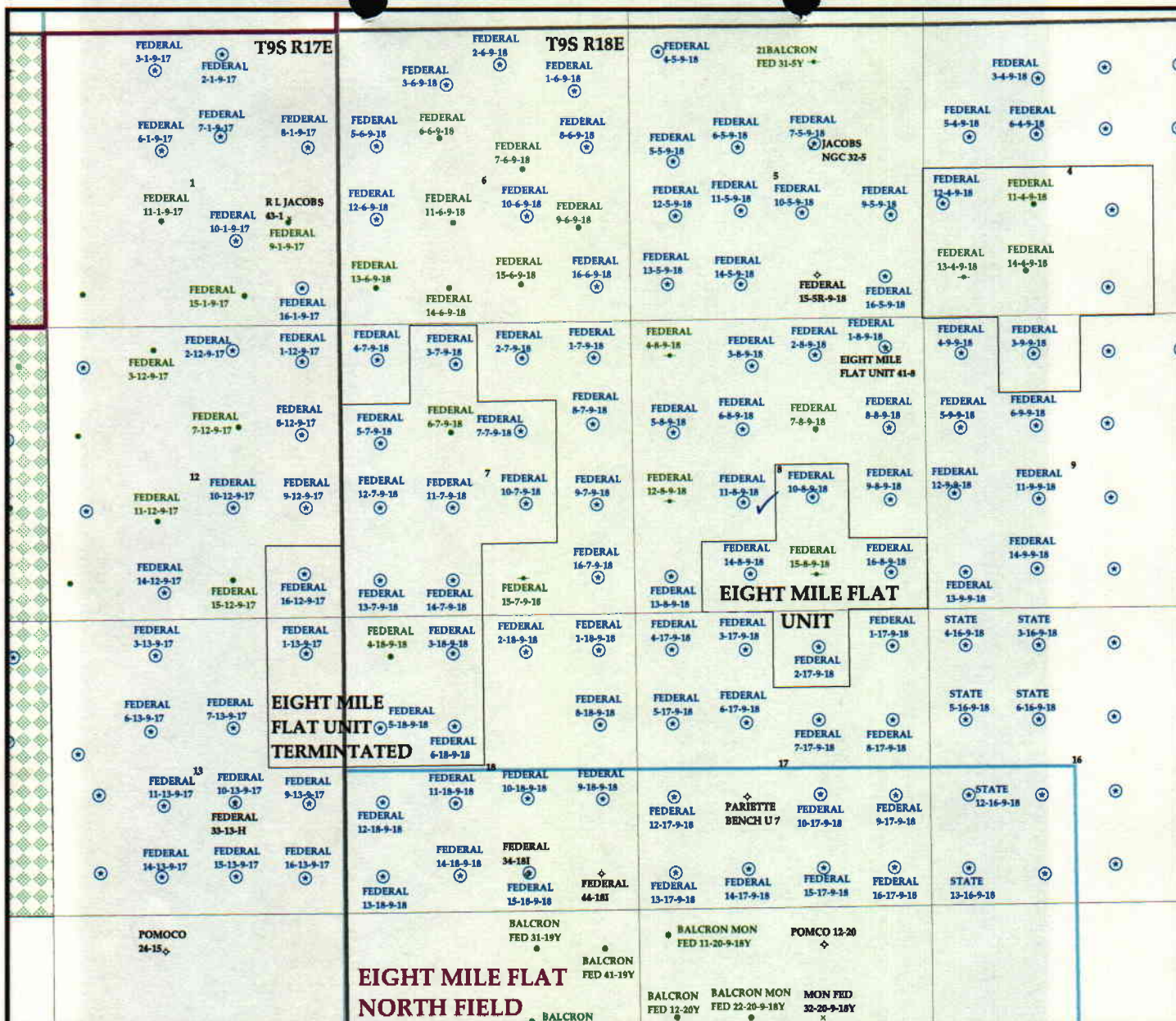
       R649-3-11. Directional Drill

COMMENTS:

*SOP, Separate file*

STIPULATIONS:

*1- Federal Approval  
2- Spacing Dir*



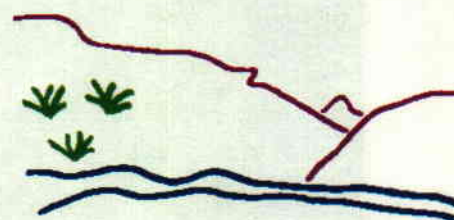
OPERATOR- NEWFIELD PROD CO (N2695)

SEC. T.9S R.18E

FIELD: EIGHT MILE FLAT NORTH (590)

COUNTY: UTAH

SPACING: R649-3-2 / GENERAL SITING



Utah Oil Gas and Mining

#### Wells

- ✕ GAS INJECTION
- ✕ GAS STORAGE
- ⊙ LOCATION ABANDONED
- ⊙ NEW LOCATION
- ⊕ PLUGGED & ABANDONED
- ✱ PRODUCING GAS
- ✱ PRODUCING OIL
- SHUT-IN GAS
- SHUT-IN OIL
- ✕ TEMP. ABANDONED
- TEST WELL
- ▲ WATER INJECTION
- ◆ WATER SUPPLY
- ⚡ WATER DISPOSAL

#### Units.shp

- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

#### Fields.shp

- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED



PREPARED BY: DIANA WHITNEY  
DATE: 8-MARCH-2005



# State of Utah

## Department of Natural Resources

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas & Mining

MARY ANN WRIGHT  
*Acting Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

March 10, 2005

Newfield Production Company  
Rt. #3, Box 3630  
Myton, UT 84052

Re: Federal 11-8-9-18 Well, 1984' FSL, 1979' FWL, NE SW, Sec. 8, T. 9 South,  
R. 18 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-36344.

Sincerely,

John R. Baza  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
Bureau of Land Management, Vernal District Office

Operator: Newfield Production Company  
Well Name & Number Federal 11-8-9-18  
API Number: 43-047-36344  
Lease: UTU-16540

Location: NE SW                      Sec. 8                      T. 9 South                      R. 18 East

### Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

DEC 30 2005

DEC 11 2005

MAR 04 2005

BLM VERNAL, UTAH

Form 3160-3  
(September 2001)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER			5. Lease Serial No. UTU-16540	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone			6. If Indian, Allottee or Tribe Name N/A	
2. Name of Operator Newfield Production Company			7. If Unit or CA Agreement, Name and No. N/A	
3a. Address Route #3 Box 3630, Myton UT 84052		3b. Phone No. (include area code) (435) 646-3721	8. Lease Name and Well No. Federal 11-8-9-18	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NE/SW 1984' FSL 1979' FWL At proposed prod. zone			9. API Well No. 43-047-36344	
10. Field and Pool, or Exploratory Eight Mile Flat			11. Sec., T., R., M., or Blk. and Survey or Area NE/SW Sec. 8, T9S R18E	
12. Distance in miles and direction from nearest town or post office* Approximately 18.9 miles southeast of Myton, Utah			12. County or Parish Uintah	13. State UT
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) Approx. 1984' f/lse. NA f/unit	16. No. of Acres in lease 1356.44	17. Spacing Unit dedicated to this well 40 Acres		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Approx. 1,024'	19. Proposed Depth 5950'	20. BLM/BIA Bond No. on file UTU0056		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5043' GL	22. Approximate date work will start* 3rd Quarter 2005	23. Estimated duration Approximately seven (7) days from spud to rig release.		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification.   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Mandie Crozier</i>	Name (Printed/Typed) Mandie Crozier	Date 3/3/05
Title Regulatory Specialist		
Approved by (Signature) <i>Howard B. Cleavage</i>	Name (Printed/Typed)	Date 12/13/2005
Title Assistant Field Manager	Office	

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on reverse)

1006M  
NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East VERNAL, UT 84078 (435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO  
DRILL**

Company: NEWFIELD PRODUCTION CO Location: NESW, Sec.8, T9S, R18E  
Well No: Federal 11-8-9-18 Lease No: UTU-16540  
API No: 43-047-36344 Agreement: N/A

Petroleum Engineer:	Matt Baker	Office: 435-781-4490	Cell: 435-828-4470
Petroleum Engineer:	Michael Lee	Office: 435-781-4432	Cell: 435-828-7875
Supervisory Petroleum Technician:	Jamie Sparger	Office: 435-781-4502	Cell: 435-828-3913
Environmental Scientist:	Paul Buhler	Office: 435-781-4475	Cell: 435-828-4029
Environmental Scientist:	Karl Wright	Office: 435-781-4484	
Natural Resource Specialist:	Holly Villa	Office: 435-781-4404	
Natural Resource Specialist:	Melissa Hawk	Office: 435-781-4476	
Office Fax: (435) 781-4410	After hours message number: (435) 781-4513		

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations.

**NOTIFICATION REQUIREMENTS**

- |   |   |  |
|---|---|--|
| Location Construction<br>(Notify Melissa Hawk ES / NRS)     | - | Forty-Eight (48) hours prior to construction of location and access roads.   |
| Location Completion<br>(Notify Melissa Hawk ES / NRS)       | - | Prior to moving on the drilling rig.   |
| Spud Notice<br>(Notify PE)                                  | - | Twenty-Four (24) hours prior to spudding the well.   |
| Casing String & Cementing<br>(Notify Jamie Sparger SPT)     | - | Twenty-Four (24) hours prior to running casing and cementing all casing strings.   |
| BOP & Related Equipment Tests<br>(Notify Jamie Sparger SPT) | - | Twenty-Four (24) hours prior to initiating pressure tests.   |
| First Production Notice<br>(Notify PE)                      | - | Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days. |



***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

This well is being approved in accordance with Washington Instruction Memorandum 2005-247 and Section 390 (Category 3) of the Energy Policy Act which establishes statutory categorical exclusions (CX) under the National Environmental Policy Act (NEPA). Category 3 states that an oil or gas well can be drilled within a developed field for which an approved land use plan or any environmental document prepared pursuant to NEPA analyzed drilling as a reasonably foreseeable activity, so long as such plan or document was approved within five (5) years prior to the date of spudding the well. This well is covered under the *Final Environmental Impact Statement and Record of Decision Castle Peak and Eightmile Flat Oil and Gas Exploration Project Newfield Rocky Mountains Inc.*, signed November 21, 2005. If the well has not been spudded by November 21, 2010, a new environmental document will have to be prepared prior to the approval of the APD.

Mountain Plover surveys shall have to be conducted in accordance with the U.S. Fish and Wildlife Service Mountain Plover Survey Guidelines.

No construction or drilling shall be allowed during the burrowing owl nesting season (April 1 to Aug. 15), without first consulting the BLM biologist. If no nesting owls are found, drilling will be allowed.

4 to 6 inches of topsoil shall be stripped from the location and placed where it can most easily be accessed for interim reclamation. Once the well has been converted to water injection, the fill slopes shall be recontoured and the topsoil shall be spread over the entire well location. The well location shall then be seeded with crested wheatgrass (Variety Hycrest) at a 12 lb/acre rate (pure live seed). After seeding has been completed, an access road loop to the well head can be established. The reserve pit will be allowed to stay open until interim reclamation is completed so the entire area can be seeded at the same time. The interim seeding of the well location and reserve pit shall be done by either drilling the seed or by broadcasting the seed and dragging it with a spike tooth harrow.

The pipeline trench shall be dug in the borrow ditch of the road and the trench material side cast into the existing vegetation. Both the water line and the gas line shall be buried in the same trench. When backfilling the trenches, care should be taken to disturb as little of the vegetation as possible and thus allowing the existing plants to reestablish on their own, however, these disturbed areas should also be seeded with crested wheatgrass at the 12 lb/acre rate to ensure vegetation establishment and to keep invasive weeds to a minimum. All seeding of the pipelines shall be completed using a seed drill.

The temporary gas lines used during the temporary production phase shall be laid on the surface, and then removed once the well is turned to water injection.

No pipeline construction will be allowed when soils are muddy and rutting of soils becomes apparent from the use of vehicles. If rutting occurs, operations must cease until soils are dry or frozen.

### ***DOWNHOLE CONDITIONS OF APPROVAL***

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:**

#### **SITE SPECIFIC DOWNHOLE CONDITIONS OF APPROVAL**

1. Casing cementing operations for production casing shall return cement to surface.

#### **DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

1. There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well. Any changes in operation must have prior approval from the BLM, Vernal Field Office Petroleum Engineers.
2. The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
3. **Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.**
4. Blowout prevention equipment (BOPE) will remain in use until the well is completed or abandoned. Closing unit controls must remain unobstructed and readily accessible at all times. Choke manifolds must be located outside of the rig substructure.

All BOPE components will be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests must be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test must be reported in the driller's log.

BOP drills must be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

No aggressive/fresh hard-banded drill pipe shall be used within casing.

5. All shows of fresh water and minerals will be reported and protected. A sample will be taken of any water flows and a water analysis furnished the BLM, Vernal Field Office. All oil and gas shows will be adequately tested for commercial possibilities, reported, and protected.



6. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the BLM, Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM, Vernal Field Office must be obtained and notification given before resumption of operations.
7. Chronologic drilling progress reports must be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

Any change in the program must be approved by the BLM, Vernal Field Office. "Sundry Notices and Reports on Wells" (Form BLM 3160-5) must be filed for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Emergency approval may be obtained orally, but such approval does not waive the written report requirement. Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, will require the filing of a suitable plan pursuant to Onshore Oil & Gas Order No. 1 of 43 CFR 3164.1 and prior approval by the BLM, Vernal Field Office.

In accordance with 43 CFR 3162.4-3, this well must be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.

8. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) will be submitted only when requested by the BLM, Vernal Field Office.

**Please submit an electronic copy of all logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM. The cement bond log must be submitted in raster format (TIF, PDF other).**

9. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the BLM, Vernal Field Office.

All measurement points shall be identified as point of sales or allocation for royalty determination prior to the installation of facilities.

10. Oil and gas meters will be calibrated in place prior to any deliveries. The Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the BLM, Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement.
11. A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM, Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
12. This APD is approved subject to the requirement that, should the well be successfully completed for production, the BLM, Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - a. Operator name, address, and telephone number.
  - b. Well name and number.
  - c. Well location ( $\frac{1}{4}$  Sec., Twn, Rng, and P.M.).
  - d. Date well was placed in a producing status (date of first production for which royalty will be paid).
  - e. The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - f. The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - g. Unit agreement and / or participating area name and number, if applicable.
  - h. Communitization agreement number, if applicable.
13. Any venting or flaring of gas will be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from Field Office Petroleum Engineers.

14. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events as defined in NTL3A, will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production
15. Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
16. Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.

**UTU-16540**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or C.A. Agreement Designation

**SUNDANCE**

8. Well Name and No.

**FEDERAL 11-8-9-18**

9. API Well No.

**43-047-36344**

10. Field and Pool, or Exploratory Area

**EIGHT MILE FLAT NORTH**

11. County or Parish, State

**UINTAH COUNTY, UT.**

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒

Oil  
Well

☐

Gas  
Well

☐

Other

2. Name of Operator

**NEWFIELD PRODUCTION COMPANY**

3. Address and Telephone No.

**Rt. 3 Box 3630, Myton Utah, 84052 435-646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**1984 FSL 1979 FWL NE/SW Section 8, T9S R18E**

12. **CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

**TYPE OF SUBMISSION**

☒

Notice of Intent

☐

Subsequent Report

☐

Final Abandonment Notice

**TYPE OF ACTION**

☐

Abandonment

☐

Recompletion

☐

Plugging Back

☐

Casing Repair

☒

Altering Casing

Other

**Permit Extension**

☐

Change of Plans

☐

New Construction

☐

Non-Routine Fracturing

☐

Water Shut-Off

☐

Conversion to Injection

☐

Dispose Water

(Note: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Newfield Production Company requests to extend the Permit to Drill this well for one year. The original approval date was 3/10/05 (expiration 3/10/06).

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 03-06-06

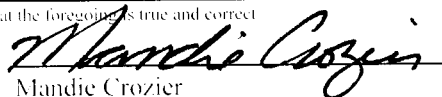
By: 

03-16-06  
CHD

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MAR 03 2006

14. I hereby certify that the foregoing is true and correct

Signed

  
Mandie Crozier

Title

Regulatory Specialist

Date

2/28/2006

CC: UTAH DOGM

(This space for Federal or State office use)

Approved by

Title

Date

Comments (attach copy of map)

DIV. OF OIL, GAS & MINING

RESET

**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

**API:** 43-047-36344  
**Well Name:** Federal 11-8-9-18  
**Location:** NE/SW Section 8, T9S R18E  
**Company Permit Issued to:** Newfield Production Company  
**Date Original Permit Issued:** 3/10/2005

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes ☐ No ☒ NA

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes ☐ No ☒

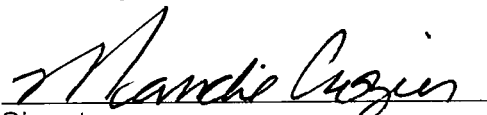
Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes ☐ No ☒

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes ☐ No ☒

Has the approved source of water for drilling changed? Yes ☐ No ☒

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes ☐ No ☒

Is bonding still in place, which covers this proposed well? Yes ☒ No ☐

  
Signature

3/1/2006

Date

Title: Regulatory Specialist

Representing: Newfield Production Company

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MAR 03 2006

DIV. OF OIL, GAS & MINING

## DIVISION OF OIL, GAS AND MINING

### **SPUDDING INFORMATION**

Name of Company: NEWFIELD PRODUCTION COMPANY

Well Name: FEDERAL 11-8-9-18

Api No: 43-047-36344 Lease Type: FEDERAL

Section 08 Township 09S Range 18E County UINTAH

Drilling Contractor NDSI RIG # NS#1

### **SPUDDED:**

Date 04/14/06

Time 10:30 AM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by TROY ZUFEIT

Telephone # (435) 823-6013

Date 04/14/2006 Signed CHD

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
ENTITY ACTION FORM - FORM 6

OPERATOR: NEWFIELD PRODUCTION COMPANY  
ADDRESS: RT. 3 BOX 3630  
MYTON, UT 84052

OPERATOR ACCT. NO. N2695

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	153/8	43-013-32733	FEDERAL 3-20-8-17	NE/NW	20	9S	17E	DUCHESNE	04/12/06	4/19/06
WELL 1 COMMENTS: <i>GRPV</i> <span style="float: right;">— K</span>											
B	99999	14844	43-047-36344	SUNDANCE FEDERAL 11-8-9-18	NE/SW	8	9S	18E	UINTAH	04/14/06	4/19/06
<i>GRPV Sundance</i> <span style="float: right;">— K</span>											
B	99999	14844	43-047-36122	SUNDANCE FEDERAL 16-8-8-18	SE/SE	8	9S	18E	UINTAH	04/06/06	4/19/06
<i>GRPV Sundance</i> <span style="float: right;">— K</span>											
B	99999	14844	43-047-36121	SUNDANCE FEDERAL 14-8-9-18	SE/SW	8	9S	18E	UINTAH	04/17/06	4/19/06
<i>GRPV Sundance</i> <span style="float: right;">— K</span>											
WELL 3 COMMENTS:											
WELL 6 COMMENTS:											

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

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APR 19 2006

*Lana Nebeker*  
Signature  
LANA NEBEKER  
Production Clerk  
Date April 19, 2006

DIV. OF OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUNDRY NOTICES AND REPORTS ON WELLS**  
Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

NEWFIELD PRODUCTION COMPANY

3a. Address Route 3 Box 3630

Myton, UT 84052

3b. Phone No. (include are code)

435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1984 FSL 1979 FWL

NE/SW Section 8 T9S R18E

5. Lease Serial No.

UTU16540

6. If Indian, Allottee or Tribe Name.

7. If Unit or CA/Agreement, Name and/or No.

SUNDANCE UNIT

8. Well Name and No.

FEDERAL 11-8-9-18

9. API Well No.

4304736344

10. Field and Pool, or Exploratory Area  
Monument Butte

11. County or Parish, State

Uintah, UT

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production(Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	Spud Notice _____
	<input type="checkbox"/> Convert to Injector	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

On 4/14/06 MIRU NDSI NS # 1. Drill 310' of 12 1/4" hole with air mist. TIH W/ 7 Jt's 8 5/8" J-55 24 # csgn. Set @ 310.29' KB  
On 4/16/06 cement with 160 sks of class "G" w/ 2% CaCL2 + 1/4# sk Cello- Flake Mixed @ 15.8 ppg > 1.17 cf/ sk yeild.  
Returned 5 bbls cement to pit. WOC.

I hereby certify that the foregoing is true and correct

Name (Printed/ Typed)  
Alvin Nielsen

Signature



Title

Drilling Foreman

Date

04/17/2006

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

APR 18 2006

DIV. OF OIL, GAS & MINING



# NEWFIELD PRODUCTION COMPANY - CASING & CEMENT REPORT

8 5/8 CASING SET AT 310.29

LAST CASING 8 5/8" set @ 310.29  
 DATUM 12' KB  
 DATUM TO CUT OFF CASING \_\_\_\_\_  
 DATUM TO BRADENHEAD FLANGE \_\_\_\_\_  
 TD DRILLER 310' LOGGER \_\_\_\_\_  
 HOLE SIZE 12 1/4

OPERATOR Newfield Production Company  
 WELL Federal 11-8-9-18  
 FIELD/PROSPECT Monument Butte  
 CONTRACTOR & RIG # NDSI NS # 1

**LOG OF CASING STRING:**

PIECES	OD	ITEM - MAKE - DESCRIPTION		WT / FT	GRD	THREAD	CONDT	LENGTH	
		Shoe Joint 41.81'							
		WHI - 92 csg head				8rd	A	0.95	
7	8 5/8"	Maverick ST&C csg		24#	J-55	8rd	A	298.44	
		GUIDE shoe				8rd	A	0.9	
CASING INVENTORY BAL.		FEET	JTS	TOTAL LENGTH OF STRING				300.29	
TOTAL LENGTH OF STRING		300.29	7	LESS CUT OFF PIECE				2	
LESS NON CSG. ITEMS		1.85		PLUS DATUM TO T/CUT OFF CSG				12	
PLUS FULL JTS. LEFT OUT		0		CASING SET DEPTH				310.29	
TOTAL		298.44	7	} COMPARE					
TOTAL CSG. DEL. (W/O THRDS)		298.44	7						
TIMING		1ST STAGE							
BEGIN RUN CSG.		Spud	4/14/2006	10:30 AM	GOOD CIRC THRU JOB				
CSG. IN HOLE			4/15/2006	11:00 AM	Bbls CMT CIRC TO SURFACE				
BEGIN CIRC			4/16/2006		RECIPROCATED PIPE FOR N/A				
BEGIN PUMP CMT			4/16/2006						
BEGIN DSPL. CMT			4/16/2006		BUMPED PLUG TO				PSI
PLUG DOWN			4/16/2006						
CEMENT USED		CEMENT COMPANY- B. J.							
STAGE	# SX	CEMENT TYPE & ADDITIVES							
1	160	Class "G" w/ 2% CaCL2 + 1/4#/sk Cello-Flake mixed @ 15.8 ppg 1.17 cf/sk yield							
CENTRALIZER & SCRATCHER PLACEMENT			SHOW MAKE & SPACING						
Centralizers - Middle first, top second & third for 3									

COMPANY REPRESENTATIVE Troy Zufelt DATE 4/16/2006

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**  
Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

5. Lease Serial No.  
**Ut-16540**

6. If Indian, Allottee or Tribe Name.  
**NA**

7. If Unit or CA/Agreement, Name and/or  
**SUNDANCE UNIT**

8. Well Name and No.  
**FEDERAL 11-8-9-18**

9. API Well No.  
**4304736344**

10. Field and Pool, or Exploratory Area  
**MONUMENT BUTTE**

11. County or Parish, State  
**UINTAH, UT**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
**NEWFIELD PRODUCTION COMPANY**

3a. Address **Route 3 Box 3630**  
**Myton, UT 84052**

3b. Phone (include area code)  
**435 646 3721**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**1984 FSL 1979 FWL**  
**NESW Section 8 T9S R18E**

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production(Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	<u>Weekly Status Report</u>
	<input type="checkbox"/> Convert to	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

On 8/9/06 MIRU NDSI Rig # 2. Set all equipment. Pressure test Kelly, TIW, Choke manifold, & Bop's to 2,000 psi. Test 8.625 csgn to 1,500 psi. Vernal BLM field, & Roosevelt DOGM office was notified of test. PU BHA and tag cement @ 269'. Drill out cement & shoe. Drill a 7.875 hole with fresh water to a depth of 5950. Lay down drill string & BHA. Open hole log w/ Dig/SP/GR log's TD to surface. PU & TIH with Guide shoe, shoe jt, float collar, 134 jt's of 5.5 J-55, 15.5# csgn. Set @ 5952.35' / KB. Cement with 350 sks cement mixed @ 11.0 ppg & 3.43 yld. Then 450 sks cement mixed @ 14.4 ppg & 1.24 yld. With 28 bbls cement returned to pit. Nipple down Bop's. Drop slips @98,000 #'s tension. Release rig 6:00 PM 8/15/06

RECEIVED

AUG 22 2006

DIV. OF OIL, GAS & MINING

I hereby certify that the foregoing is true and correct (Printed/ Typed)

**Alvin Nielsen**  
Signature

Title

**Drilling Foreman**

Date

**08/15/2006**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on reverse)

# NEWFIELD PRODUCTION COMPANY - CASING & CEMENT REPORT

LAST CASING <u>8 5/8"</u> SET AT <u>310.29'</u> DATUM <u>12' KB</u> DATUM TO CUT OFF CASING <u>12'</u> DATUM TO BRADENHEAD FLANGE _____ TD DRILLER <u>5950</u> Logger TD <u>5954</u> HOLE SIZE <u>7 7/8"</u>	_____ <u>5 1/2"</u> CASING SET AT <u>5952.35</u> Flt cllr @ 5908.76' OPERATOR <u>Newfield Production Company</u> WELL <u>Federal 11-8-9-18</u> FIELD/PROSPECT <u>Monument Butte</u> CONTRACTOR & RIG # <u>NDSI # 2</u>
---	---

LOG OF CASING STRING:								
PIECES	OD	ITEM - MAKE - DESCRIPTION		WT / FT	GRD	THREAD	CONDT	LENGTH
		Landing Jt						14
		6.04 short jt @ 3905'						
134	5 1/2"	ETC LT & C casing		15.5#	J-55	8rd	A	5894.76
		Float collar						0.6
1	5 1/2"	ETC LT&C csg		15.5#	J-55	8rd	A	44.34
		GUIDE shoe				8rd	A	0.65
CASING INVENTORY BAL.		FEET	JTS	TOTAL LENGTH OF STRING				5954.35
TOTAL LENGTH OF STRING		5954.35	135	LESS CUT OFF PIECE				14
LESS NON CSG. ITEMS		15.25		PLUS DATUM TO T/CUT OFF CSG				12
PLUS FULL JTS. LEFT OUT		265.59	6	CASING SET DEPTH				5952.35
TOTAL		6204.69	141	} COMPARE				
TOTAL CSG. DEL. (W/O THRDS)		6204.69	141					
TIMING		1ST STAGE	2nd STAGE					
BEGIN RUN CSG.		8/15/2006	8:00 AM	GOOD CIRC THRU JOB				YES
CSG. IN HOLE		8/15/2006	11:00 AM	Bbls CMT CIRC TO SURFACE				28
BEGIN CIRC		8/15/2006	11:00 AM	RECIPROCATED PIPE FOR				THRUSTROKE No
BEGIN PUMP CMT		8/15/2006	12:51 PM	DID BACK PRES. VALVE HOLD ?				YES
BEGIN DSPL. CMT		8/15/2006	1:56 PM	BUMPED PLUG TO				2262 PSI
PLUG DOWN		8/15/2006	2:22 PM					
CEMENT USED		CEMENT COMPANY- B. J.						
STAGE	# SX	CEMENT TYPE & ADDITIVES						
1	350	Premlite II w/ 10% gel + 3 % KCL, 3#s /sk CSE + 2# sk/kolseal + 1/2#s/sk Cello Flake						
		mixed @ 11.0 ppg W / 3.43 cf/sk yield						
2	450	50/50 poz W/ 2% Gel + 3% KCL, .5%EC1,1/4# sk C.F. 2% gel. 3% SM mixed @ 14.4 ppg W/ 1.24 YLD						
CENTRALIZER & SCRATCHER PLACEMENT			SHOW MAKE & SPACING					
Centralizers - Middle first, top second & third. Then every third collar for a total of 20.								

COMPANY REPRESENTATIVE <u>Alvin Nielsen</u>	DATE <u>8/15/2006</u>
---	-----------------------

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUNDRY NOTICES AND REPORTS ON WELLS**  
Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

UTU-16540

6. If Indian, Allottee or Tribe Name.

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

NEWFIELD PRODUCTION COMPANY

3a. Address Route 3 Box 3630

Myton, UT 84052

3b. Phone (include area code)

435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1984 FSL 1979 FWL

NESW Section 8 T9S R18E

7. If Unit or CA/Agreement, Name and/or  
SUNDANCE UNIT

8. Well Name and No.

FEDERAL 11-8-9-18

9. API Well No.

4304736344

10. Field and Pool, or Exploratory Area

MONUMENT BUTTE

11. County or Parish, State

UINTAH, UT

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Formation water is produced to a steel storage tank. If the production water meets quality guidelines, it is transported to the Ashley, Monument Butte, Jonah, and Beluga water injection facilities by company or contract trucks. Subsequently, the produced water is injected into approved Class II wells to enhance Newfield's secondary recovery project.

Water not meeting quality criteria, is disposed at Newfield's Pariette #4 disposal well (Sec. 7, T9S R19E) or at State of Utah approved surface disposal facilities.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

I hereby certify that the foregoing is true and  
correct (Printed/Typed)

Mandie Crozier

Signature

Title

Regulatory Specialist

Date

09/18/2006

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by \_\_\_\_\_

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certify that the applicant holds legal or equitable title to those rights in the subject lease  
which would entitle the applicant to conduct operations thereon.

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Date

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States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

RECEIVED

SEP 21 2006

DIV. OF OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUNDRY NOTICES AND REPORTS ON WELLS**  
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abandoned well. Use Form 3160-3 (APD) for such proposals.

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

NEWFIELD PRODUCTION COMPANY

3a. Address

Route 3 Box 3630  
Myton, UT 84052

3b. Phone (include area code)

435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1984 FSL 1979 FWL

NESW Section 8 T9S R18E

5. Lease Serial No.

UTU-16540

6. If Indian, Allottee or Tribe Name.

7. If Unit or CA/Agreement, Name and/or

SUNDANCE UNIT

8. Well Name and No.

FEDERAL 11-8-9-18

9. API Well No.

4304736344

10. Field and Pool, or Exploratory Area

MONUMENT BUTTE

11. County or Parish, State

UINTAH, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production(Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	Variance
	<input type="checkbox"/> Convert to	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Newfield Production Company is requesting a variance from Onshore Order 43 CFR Part 3160 Section 4 requiring production tanks to be equipped with Enardo or equivalent vent line valves. Newfield operates wells that produce from the Green River formation, which are relatively low gas producers (20 mcfpd). The majority of the wells are equipped with a three phase separator to maximize gas separation and sales.

Newfield is requesting a variance for safety reasons. Crude oil production tanks equipped with back pressure devices will emit a surge of gas when the thief hatches are open. While gauging tanks, lease operators will be subject to breathing toxic gases as well as risk a fire hazard, under optimum conditions

Accepted by the  
Utah Division of  
Oil, Gas and Mining

Federal Approval Of This  
Action Is Necessary

10/15/06  
RM

Date: 10/4/06

I hereby certify that the foregoing is true and  
correct (Printed/ Typed)

Mandie Crozier

Signature

By

Title

Regulatory Specialist

Date

09/18/2006

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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which would entitle the applicant to conduct operations thereon.

Title

Date

Office

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States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on reverse)

RECEIVED

SEP 21 2006

DIV. OF OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.

UTU-16540

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

NA

7. UNIT AGREEMENT NAME

Federal

8. FARM OR LEASE NAME, WELL NO.

Federal 11-8-9-18

9. WELL NO.

43-047-36344

10. FIELD AND POOL OR WILDCAT

Monument Butte

11. SEC., T., R., M. OR BLOCK AND SURVEY OR AREA

Sec. 8, T9S, R18E

12. COUNTY OR PARISH

Duchesne

13. STATE

UT

1a. TYPE OF WORK

OIL WELL ☒ GAS WELL ☐ DRY ☐ Other

1b. TYPE OF WELL

NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR

Newfield Exploration Company

3. ADDRESS AND TELEPHONE NO.

1401 17th St. Suite 1000 Denver, CO 80202

4. LOCATION OF WELL. (Report locations clearly and in accordance with any State requirements.)\*

At Surface 1984" FSL & 1979" FWL (NE/SW) Sec. 8, T9S, R18E

At top prod. Interval reported below

At total depth

14. API NO.  
43-047-36344

DATE ISSUED  
8/25/05

15. DATE SPUDDED  
04/14/06

16. DATE F.D. REACHED  
08/14/06

17. DATE COMPL. (Ready to prod.)  
09/15/06

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*  
5043' GL 5055' KB

19. ELEV. CASINGHEAD

20. TOTAL DEPTH MD & TVD  
5950'

21. PLUG BACK F.D., MD & TVD  
5897'

22. IF MULTIPLE COMPL. HOW MANY\*

23. INTERVALS DRILLED BY  
----->

ROTARY TOOLS  
X

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)\*

Green River 4074'-5514'

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Induction Guard, SP, Compensated Density, Compensated Neutron, GR, Caliper, Cement Bond Log

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
8-5/8" - J-55	24#	310'	12-1/4"	To surface with 160 sx Class "G" cmt	
5-1/2" - J-55	15.5#	5952'	7-7/8"	350 sx Premlite II and 450 sx 50/50 Poz	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	EOT @ 5596'	TA @ 5495'

31. PERFORATION RECORD (Interval, size and number)

INTERVAL	SIZE	SPF/NUMBER	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
(CP2, & 3) 5490'-5514', 5453'-5466'	.46"	4/148	5453'-5514'	Frac w/ 139,320# 20/40 sand in 968 bbls fluid
(CP 5) 5351'-5365'	.43"	4/56	5351'-5365'	Frac w/ 39,720# 20/40 sand in 378 bbls fluid
(GB4 & 6) 4142'-4148', 4074'-4090'	.43"	4/88	4074'-4148'	Frac w/ 98,465# 20/40 sand in 679 bbls fluid

32. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump)					WELL STATUS (Producing or shut-in)	
09/15/06		2-1/2" x 1-1/2" x10x 14' RHAC SM Plunger Pump					PRODUCING	
DATE OF TEST	HOURS TESTED	CHOKED SIZE	PROD'N. FOR TEST PERIOD	OIL--BBL'S	GAS--MCF	WATER--BBL		GAS/OIL RATIO
30 day ave			----->	52	28	29		538
FLOW-TUBING PRESS.	CASING PRESSURE	CALCULATED 24 HOUR RATE	OIL BBL	GAS--MCF	WATER--BBL		OIL GRAVITY--API CORRECTED	
		----->						

33. DISPOSITION OF GASES (as used for fuel, vented, etc.)

Sold & Used for Fuel

34. USE OF ATTACHMENTS

RECEIVED  
OCT 24 2006

DIV. OF OIL, GAS & MINING

*John Pano*

SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all multi-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries)				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
			Well Name Federal 11-8-9-18	Garden Gulch Mkr	3626'	
				Garden Gulch 1	3792'	
				Garden Gulch 2	3909'	
				Point 3 Mkr	4158'	
				X Mkr	4394'	
				Y-Mkr	4428'	
				Douglas Creek Mkr	4560'	
				BiCarbonate Mkr	4795'	
				B Limestone Mkr	4945'	
				Castle Peak	5337'	
				Basal Carbonate	5759'	
				Total Depth (LOGGERS)	5954'	

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:

**UTV-16540**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CO-AGREEMENT NAME:  
**SUNDANCE UNIT**

8. WELL NAME and NUMBER:  
**FEDERAL 11-8-9-18**

9. API NUMBER:  
**4304736344**

10. FIELD AND POOL, OR WILDCAT:  
**MONUMENT BUTTE**

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR:  
**NEWFIELD PRODUCTION COMPANY**

3. ADDRESS OF OPERATOR: **Route 3 Box 3630** CITY **Myton** STATE **UT** ZIP **84052** PHONE NUMBER **435.646.3721**

4. LOCATION OF WELL:  
FOOTAGES AT SURFACE: **1984 FSL, 1979 FWL**

COUNTY: **UINTAH**

OTR/OTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NESW, 8, T9S, R18E**

STATE: **UT**

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON	
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion: <b>10/23/2006</b>	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: - Weekly Status Report	
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

**Status report for time period 8/28/06 - 09/16/06**

Subject well had completion procedures initiated in the Green River formation on 08-28-06 without the use of a service rig over the well. A cement bond log was run and a total of three Green River intervals were perforated and hydraulically fracture treated with 20/40 mesh sand. Perforated intervals are as follows: Stage #1 (5490'-5514'), (5453'-5466'); Stage #2 (5351'-5365') Stage #3 (4142'-4148'). All perforations, were 4 JSPF. Composite flow-through frac plugs were used between stages. Fracs were flowed back through chokes. A service rig was moved over the well on 09-13-2006. Bridge plugs were drilled out and well was cleaned to 5897'. Zones were swab tested for sand cleanup. A new 1 1/2" bore rod pump was run in well on sucker rods. Well was placed on production via rod pump on 09-15-2006.

RECEIVED

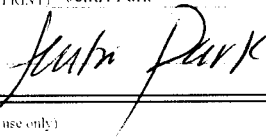
OCT 26 2006

DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) **Jentri Park**

TITLE **Production Clerk**

SIGNATURE



DATE **10/23/2006**

(This space for State use only)





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
1595 WYNKOOP STREET  
DENVER, CO 80202-1129  
<http://www.epa.gov/region8>

AUG 18 2010

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Eric Sundberg  
Newfield Production Company  
1001 Seventeenth Street, Suite 2000  
Denver, CO 80202

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

Re: Final Permit  
AOR Corrective Action  
EPA UIC Permit UT21132-07636  
Federal 11-8-9-18  
Uintah County, Utah  
API No.: 43-047-36344

Dear Mr. Sundberg:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Federal 11-8-9-18 injection well. A Statement of Basis that discusses the conditions and requirements of this EPA UIC Permit, is also included.

The Public Comment period for this Permit ended on AUG 09 2010. No comments on the Draft Permit were received during the Public Notice period; therefore the Effective Date for this EPA UIC Permit is the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect as of the Effective Date of this Permit.

Please note that under the terms and conditions of this Final Permit you are authorized only to construct the proposed injection well. Prior to commencing injection, you first must fulfill all "Prior to Commencing Injection" requirements of the Final Permit, Part II Section C.1, and obtain written Authorization to Inject from the EPA. It is your responsibility to be familiar with and to comply with all provisions of your Final Permit. The EPA forms referenced in the permit are available at <http://www.epa.gov/safewater/uic/reportingforms.html>. Guidance documents for Cement Bond Logging, Radioactive Tracer testing, Step Rate testing, Mechanical Integrity demonstration, Procedure in the Event of a Mechanical Integrity Loss, and other UIC guidances, are available at [http://www.epa.gov/region8/water/uic/deep\\_injection.html](http://www.epa.gov/region8/water/uic/deep_injection.html). Upon request, hard copies of the EPA forms and guidances can be provided.

**RECEIVED**

**SEP 01 2010**

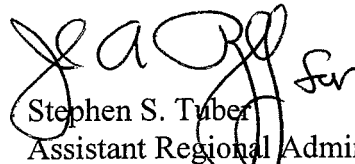


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This EPA UIC Permit is issued for the operating life of the well unless terminated (Part III, Section B). The EPA may review this Permit at least every five (5) years to determine whether any action is warranted pursuant to 40 CFR § 144.36(a).

If you have any questions on the enclosed Final Permit or Statement of Basis, please call Emmett Schmitz of my staff at (303) 312-6174, or toll-free at (800) 227-8917, ext. 312-6174.

Sincerely,



Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

enclosure: Final UIC Permit  
Statement of Basis

cc: Letter only:

Uintah & Ouray Business Committee, Ute Indian Tribe:  
Curtis Cesspooch, Chairman  
Frances Poowegup, Vice-Chairwoman  
Irene Cuch, Councilwoman  
Stewart Pike, Councilman  
Philip Chimburas, Councilman  
Richard Jenks, Jr., Councilman

Daniel Picard, Superintendent  
Uintah & Ouray Indian Agency  
U.S. Bureau of Indian Affairs

cc: all enclosures:

Michael Guinn  
District Manager  
Newfield Production Company  
Myton, Utah



Mike Natchees  
Environmental Coordinator  
Ute Indian Tribe

Manual Myore  
Director  
Energy & Minerals Dept.  
Ute Indian Tribe

Brad Hill  
Acting Associate Director  
State of Utah - Natural Resources

Fluid Minerals Engineering Dept.  
U.S. Bureau of Land Management  
Vernal, Utah



**UNDERGROUND INJECTION CONTROL PROGRAM  
PERMIT**

PREPARED: August 2010

**Permit No. UT21132-07636**

Class II Enhanced Oil Recovery Injection Well

**Federal 11-8-9-18  
Uintah County, UT**

Issued To

**Newfield Production Co.**  
1001 Seventeenth Street, Suite 2000  
Denver, CO 80202

## Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Newfield Production Co.  
1001 Seventeenth Street, Suite 2000  
Denver, CO 80202

is authorized to construct and to operate the following Class II injection well or wells:

Federal 11-8-9-18  
1984' FSL & 1979' FWL, NESW S8, T9S, R18E  
Uintah County, UT

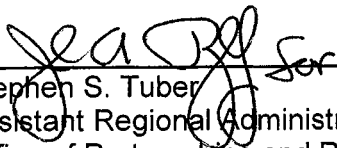
EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. (40 CFR §144.35) An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State Director.

Issue Date: AUG 18 2010

Effective Date AUG 18 2010

  
\_\_\_\_\_  
Stephen S. Tuber  
Assistant Regional Administrator\*  
Office of Partnerships and Regulatory Assistance

\*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

## **PART II. SPECIFIC PERMIT CONDITIONS**

### **Section A. WELL CONSTRUCTION REQUIREMENTS**

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

#### **1. Casing and Cement.**

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

#### **2. Injection Tubing and Packer.**

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

#### **3. Sampling and Monitoring Devices.**

The Permittee shall install and maintain in good operating condition:

- (a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and
- (b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:
  - (i) on the injection tubing; and
  - (ii) on the tubing-casing annulus (TCA); and
- (c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and
- (d) a non-resettable cumulative volume recorder attached to the injection line.

#### **4. Well Logging and Testing**

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and an interpretation of the test or log results.

#### **5. Postponement of Construction or Conversion**

The Permittee shall complete well construction within one year of the Effective Date of the Permit, or in the case of an Area Permit within one year of Authorization of the additional well. Authorization to construct and operate shall expire if the well has not been constructed within one year of the Effective Date of the Permit or Authorization and the Permit may be terminated under 40 CFR 144.40, unless the Permittee has notified the Director and requested an extension prior to expiration. Notification shall be in writing, and shall state the reasons for the delay and provide an estimated completion date. Once Authorization has expired under this part, the complete permit process including opportunity for public comment may be required before Authorization to construct and operate may be reissued.

#### **6. Workovers and Alterations**

Workovers and alterations shall meet all conditions of the Permit. Prior to beginning any addition or physical alteration to an injection well that may significantly affect the tubing, packer or casing, the Permittee shall give advance notice to the Director and obtain the Director's approval. The Permittee shall record all changes to well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workover, logging, or test data to EPA within sixty (60) days of completion of the activity.

A successful demonstration of Part I MI is required following the completion of any well workover or alteration which affects the casing, tubing, or packer. Injection operations shall not be resumed until the well has successfully demonstrated mechanical integrity and the Director has provided written approval to resume injection.

### **Section B. MECHANICAL INTEGRITY**

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

- (a) There is no significant leak in the casing, tubing, or packer (Part I); and
- (b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

### **1. *Demonstration of Mechanical Integrity (MI).***

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test is complete.

### **2. *Mechanical Integrity Test Methods and Criteria***

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

### **3. *Notification Prior to Testing.***

The Permittee shall notify the Director at least 30 days prior to any scheduled mechanical integrity test. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

### **4. *Loss of Mechanical Integrity.***

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in.

Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan.

Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.



## **Section C. WELL OPERATION**

INJECTION BETWEEN THE OUTERMOST CASING PROTECTING UNDERGROUND SOURCES OF DRINKING WATER AND THE WELL BORE IS PROHIBITED.

Injection is approved under the following conditions:

### **1. Requirements Prior to Commencing Injection.**

Well injection, including for new wells authorized by an Area Permit under 40 CFR 144.33 (c), may commence only after all well construction and pre-injection requirements herein have been met and approved. The Permittee may not commence injection until construction is complete, and

- (a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and
  - (i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or
  - (ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

### **2. Injection Interval.**

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

### **3. Injection Pressure Limitation**

- (a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.
- (b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permittee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

#### **4. Injection Volume Limitation.**

Injection volume is limited to the total volume specified in APPENDIX C.

#### **5. Injection Fluid Limitation.**

Injected fluids are limited to those identified in 40 CFR 144.6(b)(2) as fluids used for enhanced recovery of oil or natural gas, including those which are brought to the surface in connection with conventional oil or natural gas production that may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved for injection. This well is NOT approved for commercial brine injection, industrial waste fluid disposal or injection of hazardous waste as defined by CFR 40 Part 261. The Permittee shall provide a listing of the sources of injected fluids in accordance with the reporting requirements in Part II Section D Paragraph 4 and APPENDIX D of this Permit.

#### **6. Tubing-Casing Annulus (TCA)**

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

### **Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS**

#### **1. Monitoring Parameters, Frequency, Records and Reports.**

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

- (a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;
- (b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;
- (c) the analytical techniques or methods used for analysis.

#### **2. Monitoring Methods.**

- (a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.

- (b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.
- (c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.
- (d) Pressures are to be measured in pounds per square inch (psi).
- (e) Fluid volumes are to be measured in standard oil field barrels (bbl).
- (f) Fluid rates are to be measured in barrels per day (bbl/day).

### **3. Records Retention.**

- (a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.
- (b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

### **4. Annual Reports.**

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

## **Section E. PLUGGING AND ABANDONMENT**

### **1. Notification of Well Abandonment, Conversion or Closure.**

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

### **2. Well Plugging Requirements**

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

### **3. Approved Plugging and Abandonment Plan.**

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging the well.

### **4. Forty Five (45) Day Notice of Plugging and Abandonment.**

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abandonment plan.

### **5. Plugging and Abandonment Report.**

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

- (a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or
- (b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

### **6. Inactive Wells.**

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

- (a) Provides written notice to the Director;
- (b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and
- (c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

## **PART III. CONDITIONS APPLICABLE TO ALL PERMITS**

### **Section A. EFFECT OF PERMIT**

The Permittee is allowed to engage in underground injection in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

### **Section B. CHANGES TO PERMIT CONDITIONS**

#### ***1. Modification, Reissuance, or Termination.***

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

#### ***2. Conversions.***

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

#### ***3. Transfer of Permit.***

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act; in some cases, modification or revocation and reissuance is mandatory.

#### **4. Permittee Change of Address.**

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

#### **5. Construction Changes, Workovers, Logging and Testing Data**

The Permittee shall give advance notice to the Director, and shall obtain the Director's written approval prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workovers, logging, or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made, and written authorization from the Director received, prior to resuming injection activities.

### **Section C. SEVERABILITY**

The Provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

### **Section D. CONFIDENTIALITY**

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

### **Section E. GENERAL PERMIT REQUIREMENTS**

#### **1. Duty to Comply.**

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

## **2. Duty to Reapply.**

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

## **3. Need to Halt or Reduce Activity Not a Defense.**

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

## **4. Duty to Mitigate.**

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Permit.

## **5. Proper Operation and Maintenance.**

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

## **6. Permit Actions.**

This Permit may be modified, revoked and reissued or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

## **7. Property Rights.**

This Permit does not convey any property rights of any sort, or any exclusive privilege.

## **8. Duty to Provide Information.**

The Permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

## **9. Inspection and Entry.**

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;



- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,
- (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

#### **10. Signatory Requirements.**

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

#### **11. Reporting Requirements.**

- (a) **Planned changes.** The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.
- (b) **Anticipated noncompliance.** The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Monitoring Reports.** Monitoring results shall be reported at the intervals specified in this Permit.
- (d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.
- (e) **Twenty-four hour reporting.** The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:
  - (i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or
  - (ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- (f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurrence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website <http://www.nrc.uscg.mil/index.htm>.
- (g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.
- (h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

## **Section F. FINANCIAL RESPONSIBILITY**

### ***1. Method of Providing Financial Responsibility.***

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

### ***2. Insolvency.***

In the event of:

- (a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or
- (b) suspension or revocation of the authority of the trustee institution to act as trustee; or

- (c) the institution issuing the financial mechanism losing its authority to issue such an instrument

the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

## APPENDIX A

### WELL CONSTRUCTION REQUIREMENTS

See diagram.

The Federal 11-8-9-18 was drilled to a total depth of 5952 feet (KB) in the Wasatch Formation (Estimated top 5883 feet). Plug back total depth (PBDT) is 5897 feet. There are fourteen (14) feet of Wasatch shale above the PBDT. No cement plug will be required across this minimal shale interval.

Surface casing (8-5/8 inch) was set at a depth of 310 feet in a 12-1/4 inch hole using 160 sacks of Class "G" cement which was circulated to the surface.

Production casing (5-1/2 inch) was set at a depth of 5952 feet (KB) in a 7-7/8 inch hole with 350 sacks of Premium Lite II and 450 sacks of 50/50 poz mix. This well construction is considered adequate to protect USDWs.

The EPA calculates the top of cement as 765 feet from the surface. The Cement Bond Log (CBL) identifies top of cement at 50 feet. CBL analysis does identify more than 18 feet of 80% bond index cement bond within the Administrative Confining Zone and Green River Garden Gulch Confining Shales "A" and "B".

The schematic diagram shows enhanced recovery injection perforations in the Garden Gulch and Douglas Creek Members of the Green River Formation. Additional perforations may be added at a later time between the depths of 3,905 feet and the top of the Wasatch Formation (Estimated to be 5883 feet) provided the operator first notifies the Director and later submits an updated well completion report (EPA Form 7520-12) and schematic diagram.

The packer will be set no higher than 100 feet above the top perforation.

# UT 21132-07636 Federal 11-8-9-18

Spud Date: 4-14-06  
Put on Production: 9-15-06  
GL: 5043' KB: 5055'

Proposed Injection  
Wellbore Diagram

Initial Production: BOPD,  
MCFD, BWPD

## SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24# *Base USDN's*  
LENGTH: 7 jts (298.44')  
DEPTH LANDED: 310.29' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: 160 sxs Class "C" cmt, est 5 bbls cmt to surf.

## PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 135 jts (5939.10')  
DEPTH LANDED: 5952.35' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: 350 sxs Prem. Lite II mixed & 450 sxs 50/50 POZ.  
CEMENT TOP AT: 59'

## TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#  
NO. OF JOINTS: 173 jts (5483.19')  
TUBING ANCHOR: 5495.19' KB  
NO. OF JOINTS: 1 jts (32.62')  
SEATING NIPPLE: 2-7/8" (1.10')  
SN LANDED AT: 5530.61' KB  
NO. OF JOINTS: 2 jts (64.21')  
TOTAL STRING LENGTH: EOT @ 5596.37' KB

Cement top @ 50'

## FRAC JOB

09-11-06 5453-5514' Frac CP3, & CP2, sands as follows:  
139,320# 20/40 sand in 968 bbls Lightning 17  
frac fluid. Treated @ avg press of 1379 psi  
w/avg rate of 25 BPM. ISIP 1400 psi. Calc  
flush: 5451 gal. Actual flush: 4956 gal.  
09-11-06 5351-5365' Frac CP.5 sands as follows:  
39,720# 20/40 sand in 378 bbls Lightning 17  
frac fluid. Treated @ avg press of 1542 psi  
w/avg rate of 24.9 BPM. ISIP 1450 psi. Calc  
flush: 5349 gal. Actual flush: 4788 gal.  
09-11-06 4074-4148' Frac GB6, & GB4 sands as follows:  
98,465# 20/40 sand in 679 bbls Lightning 17  
frac fluid. Treated @ avg press of 1909 psi  
w/avg rate of 24.9 BPM. ISIP 2100 psi. Calc  
flush: 4072 gal. Actual flush: 3948 gal.

*Castle Peak 5335-5355*

*310'  
765' TOC/EPA*

*2784' Trone  
2845-2860' Mahogany Bench*

*3588-3621' Confining Zone  
3621' Garden Gulch*

*A 3712'-3807'  
B 3820-3905'*

Packer @ 4039'

4074-4090'

4142-4148'

*4551' Douglas Creek*

## PERFORATION RECORD

Date	Interval	ISPF	Holes
08-28-06	5490-5514'	4 ISPF	96 holes
08-28-06	5453-5466'	4 ISPF	52 holes
09-11-06	5351-5365'	4 ISPF	56 holes
09-11-06	4142-4148'	4 ISPF	24 holes
09-11-06	4074-4090'	4 ISPF	64 holes

5351-5365'

5453-5466'

5490-5514'

*5758' Basal Carbonate*

*Est. 11/28/06 5883'*

PBTD @ 5897'

TD @ ~~5952'~~ 5952'

SHOE @ 5952'

NEWFIELD

Federal 11-8-9-18

1984' FSL & 1979' FWL

NE/SW Section 8-T9S-R18E

Uintah Co, Utah

API # 43-047-36344; Lease # UTU-16540

## APPENDIX B

### LOGGING AND TESTING REQUIREMENTS

#### Logs.

Logs will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well logging required as a condition of this permit.

#### NO LOGGING REQUIREMENTS

#### Tests.

Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

<b>WELL NAME:</b> Federal 11-8-9-18	
<b>TYPE OF TEST</b>	<b>DATE DUE</b>
Standard Annulus Pressure	Prior to receiving authorization to inject and at least once every five (5) years following the last successful test.
Pore Pressure	Prior to receiving authorization to inject.

## APPENDIX C

### OPERATING REQUIREMENTS

#### MAXIMUM ALLOWABLE INJECTION PRESSURE:

Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure(s) listed below.

WELL NAME	MAXIMUM ALLOWED INJECTION PRESSURE (psi)
	ZONE 1 (Upper)
Federal 11-8-9-18	1,020

#### INJECTION INTERVAL(S):

Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

WELL NAME: Federal 11-8-9-18			
FORMATION NAME	APPROVED INJECTION INTERVAL (KB, ft)		FRACTURE GRADIENT (psi/ft)
	TOP	BOTTOM	
Green River: Garden Gulch, Douglas Creek & Basal Carbonate Members.	3,905.00 - 5,883.00		0.690

#### ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

#### MAXIMUM INJECTION VOLUME:

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

## APPENDIX D

### MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE MONTHLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS	
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)
ANNUALLY	
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH
ANNUALLY	
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and minimum annulus pressure(s) (psig)
	Each month's injected volume (bbl)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

In addition to these items, additional Logging and Testing results may be required periodically. For a list of those items and their due dates, please refer to APPENDIX B - LOGGING AND TESTING REQUIREMENTS.



## APPENDIX E

### PLUGGING AND ABANDONMENT REQUIREMENTS

See diagram.

The well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs and in accordance with other applicable Federal, State or local law or regulation. Tubing, packers, and any downhole apparatus shall be removed. Class A, C, G, and H cements, with additives such as accelerators and retarders that control or enhance cement properties, may be used for plugs. However, volume extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.2 lb/gal shall be placed between all plugs. Within sixty (60) days after plugging, the owner or operator shall submit Plugging Record (EPA Form 7520-13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. At a minimum, the following plugs are required:

The Federal 11-8-9-18 was drilled to a total depth of 5952 feet in the Wasatch Formation (Estimated top 5883 feet). Plug back total depth (PBSD) is 5897 feet. There are fourteen (14) feet of Wasatch shale above PBSD. No cement plug will be required across this minimal shale interval.

PLUG NO. 1: Seal Injection Zone: Set a cast iron bridge plug (CIBP) no more than fifty (50) feet above the top injection perforation. Place at least twenty (20) feet of cement plug on top of the CIBP.

PLUG NO. 2: Seal Mahogany Shale and Trona intervals: Squeeze a cement plug on the backside of the 5-1/2 inch casing across the Trona Zone and the Mahogany Shale approximately 2,735 feet to 2,910 feet (unless pre-existing backside cement precludes cement-squeezing this interval) followed by a minimum 175-foot balanced cement plug inside the 5-1/2 inch casing across the Trona Zone and the Mahogany Shale, approximately 2,735 feet to 2,910 feet.

PLUG NO. 3: Seal USDWs: Squeeze a cement plug (1,230 feet - 1,350 feet) on the backside of the 5-1/2 inch casing across the base of the Uinta formation (unless pre-existing backside cement precludes cement-squeezing this interval), followed by a minimum 120-foot balanced cement plug inside the 5-1/2 inch casing across the base of the Uinta Formation, approximately 1,230 feet to 1,350 feet.

PLUG NO.4: Seal Surface: Set a Class "G" cement plug within the 5-1/2 inch casing to 605 feet and up the 5-1/2 inch by 8-5/8 inch casings annulus to the surface.

## Federal 11-8-9-18

Spud Date: 4-14-06  
 Put on Production: 9-15-06  
 GL: 5043' KB: 5055'

Proposed P & A  
Wellbore DiagramSURFACE CASING

CSG SIZE: 8-5/8"  
 GRADE: J-55  
 WEIGHT: 24#  
 LENGTH: 7 jts (298.44')  
 DEPTH LANDED: 310.29' KB  
 HOLE SIZE: 12-1/4"  
 CEMENT DATA: 160 sxs Class "G" cmt, est 5 bbls cmt to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"  
 GRADE: J-55  
 WEIGHT: 15.5#  
 LENGTH: 135 jts. (5939.10')  
 DEPTH LANDED: 5952.35' KB  
 HOLE SIZE: 7-7/8"  
 CEMENT DATA: 350 sxs Prem. Lite II mixed & 450 sxs 50/50 POZ.  
 CEMENT TOP AT: 50'

Cement top @ 50'

Pump 42 sx Class G Cement down 5 - 1/2" casing to 360'

Casing Shoe @ 310'

605'

1230-1350' Cement plug

2784' Tron2  
2843-2860' Mahogany Bench20' Class G Cement plug on top of CIBP  
CIBP 50' above top Perf.

4074-4090'

4142-4148'

5351-5365'

5453-5466'

5490-5514'

PBTB @ 5897'

TD @ ~~5952~~ 5952'

SHOE @ 5952'

NEWFIELD

Federal 11-8-9-18

1984' FSL &amp; 1979' FWL

NE/SW Section 8-T9S-R18E

Uintah Co, Utah

API # 43-047-36344; Lease # UTU-16540

## **APPENDIX F**

### **CORRECTIVE ACTION REQUIREMENTS**

The Federal 12-8-9-18 will be monitored weekly at the surface for evidence of fluid movement out of the injection zone.

In addition, Newfield developed a corrective action monitoring program, effective July 10, 2008, entitled "Procedure related to proposed Class II Enhanced Oil Recovery Injection Wells determined by the EPA to have specific Area of Review (AOR) wells with inadequate cement across the Confining Zone".

If possible fluid movement out of the injection zone is identified, either through the weekly monitoring, through Newfield's July 10, 2008 procedure described above, or through any other means (for example, evidence of fluid flow or increased bradenhead annulus pressure readings, tubing-casing annulus pressure readings, or other evidence of a mechanical integrity failure), the Permittee will shut in Federal 11-8-9-18 immediately and notify the Director. No injection into Federal 11-8-9-18 will be permitted until the Permittee has notified the Director that the situation has been resolved, submitted Rework Records (EPA Form No. 7520-12) and a schematic diagram, and received authorization from the Director to re-commence injection.



**RE: Procedure related to proposed Class II Enhanced Oil Recovery Injection Wells determined by the EPA to have specific Area of Review (AOR) wells with inadequate cement across the confining zone**

Effective July 10, 2008 Newfield Production Company will implement the following procedure to address concerns related to protection of Underground Sources of Drinking Water (USDW) in AOR wells where the interval of cement bond index across the confining zone behind pipe has been determined to be inadequate. The procedure is intended to meet the corrective action requirements found in the UIC Class II permit, as well as provide data that could be used to detect and prevent fluid movement out of the proposed injection zone.

- 1) Establish baseline production casing by surface casing annulus pressures prior to water injection in subject well with a calibrated gauge.
- 2) Record the baseline pressure, report findings to Newfield engineering group and keep on file so it is available upon request
- 3) Place injection well in service. Run packer integrity and radioactive tracer logs to verify wellbore integrity and determine zones taking water.
- 4) Construct a geologic cross section showing zones taking water and their geologic equivalent zones in the AOR wells.
- 5) Submit a report of the packer integrity log, radioactive tracer log, and geologic cross section to the Newfield engineering staff for review and keep on file so it is available upon request
- 6) Weekly observations of the site will be made by Newfield during normal well operating activities. Any surface discharge of fluids will be reported immediately.
- 7) After injection well is placed in service, weekly observations of annulus pressure will be made and compared to baseline pressure and will be recorded once monthly. The recorded pressure information will be kept on file and be available upon request.
- 8) If pressure increases by more than 10% above baseline at any time in an AOR well with insufficient cement bond, Newfield will run a temperature survey log in subject well. This log, in concert with the geologic cross section, will enable the determination of water movement in the open hole by production casing annulus through a shift in geothermal gradient.
- 9) If water movement is determined in annulus, Newfield will shut in the injection well and repair the production casing by open hole annulus or leave the injection well out of service.

# STATEMENT OF BASIS

**NEWFIELD PRODUCTION CO.  
FEDERAL 11-8-9-18  
UINTAH COUNTY, UT**

**EPA PERMIT NO. UT21132-07636**

**CONTACT:** Emmett Schmitz  
U. S. Environmental Protection Agency  
Ground Water Program, 8P-W-GW  
1595 Wynkoop Street  
Denver, Colorado 80202-1129  
Telephone: 1-800-227-8917 ext. 312-6174

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection wells so that the injection does not endanger underground sources of drinking water, governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

## PART I. General Information and Description of Facility

Newfield Production Co.  
1001 Seventeenth Street, Suite 2000  
Denver, CO 80202

on

March 5, 2007

submitted an application for an Underground Injection Control (UIC) Program Permit or Permit Modification for the following injection well or wells:

Federal 11-8-9-18  
1984' FSL & 1979' FWL, NESW S8, T9S, R18E  
Uintah County, UT

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT.

The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

The Federal 11-8-9-18 is currently an active Green River Formation oil well. It is the initial intent of the Permittee to use current production perforations for Class II enhanced recovery injection. The Federal 11-8-9-18 has total depth in the Wasatch Formation. The 85-foot "B" Shale Confining Zone has seventy-four (74) feet of 80% bond index cement bond.

TABLE 1.1		
WELL STATUS / DATE OF OPERATION		
NEW WELLS		
Well Name	Well Status	Date of Operation
Federal 11-8-9-18	New	N/A



## PART II. Permit Considerations (40 CFR 146.24)

### Hydrogeologic Setting

Water wells for domestic supply in this area, when present, generally are completed into the shallow alluvium, the Duchesne River Formation, or the underlying Uinta Formation, and the water generally contains approximately 500 to 1,500 mg/l and higher total dissolved solids.

The Uinta-Animas aquifer in the Uinta Basin is present in water-yielding beds of sandstone, conglomerate, and siltstone of the Duchesne River and Uinta Formations, the Renegade Tongue of the Wasatch Formation, and the Douglas Creek Member of the Green River Formation. The Renegade Tongue of the Wasatch Formation and the Douglas Creek Member of the Green River Formation contain an aquifer along the southern and eastern margins of the basin where the rocks primarily consist of fluvial, massive, irregularly bedded sandstone and siltstone. Water-yielding units in the Uinta-Animas aquifer in the Uinta Basin commonly are separated from each other and from the underlying Mesaverde aquifer by units of low permeability composed of claystone, shale, marlstone, or limestone. In the Uinta Basin, for example, the part of the aquifer in the Duchesne River and Uinta Formations ranges in thickness from 0 feet at the southern margin of the aquifer to as much as 9,000 feet in the north-central part of the aquifer. Ground-water recharge to the Uinta-Animas aquifer generally occurs in the areas of higher altitude along the margins of the basin. Ground water is discharged mainly to streams, springs, and by transpiration from vegetation growing along stream valleys. The rate of ground-water withdrawal is small, and natural discharge is approximately equal to recharge. Recharge occurs near the southern margin of the aquifer, and discharge occurs near the White and Green Rivers (from USGS publication HA 730-C). Water samples from Mesaverde sands in the nearby Natural Buttes Unit yielded highly saline water.

### Geologic Setting (TABLE 2.1)

The proposed enhanced oil recovery injection well is located in the Greater Monument Butte Field, T7-9S and R15-19E, which lies near the center of the broad, gently northward dipping south flank of the Uinta Basin. More than 450 million barrels of oil (63 MT) have been produced from sediments of the Uinta Basin. The Uinta Basin is a topographic and structural trough encompassing an area of more than 9,300 square mi (14,900 km) in northeast Utah. The basin is sharply asymmetrical, with a steep north flank bounded by the east-west-trending Uinta Mountains, and a gently dipping south flank. The Uinta Basin was formed in Paleocene to Eocene time, creating a large area of internal drainage which was filled by the ancestral Lake Uinta. The lacustrine, or fresh water lake-formed, sediments deposited in and around Lake Uinta make up the Uintah and Green River Formations. The southern shore of Lake Uinta was very broad and flat, resulting in large cyclic shifts of the location of the shoreline during the many repeated transgressive and regressive cycles caused by the climatic and tectonic-induced rise and fall of water levels of the lake. Distributary-mouth bars, distributary channels, and near-shore bars are the primary oil producing sandstone reservoirs in the area. (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report, 4/1/99-9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE-AC26-98BC15103).

The Duchesne River Formation is absent in this area. Shale and siltstone of the Uintah Formation outcrop and compose the surface rock throughout the area. The lower 600 feet to 800 feet of the Uinta Formation, consisting generally of shale interbedded with occasionally water-bearing sandstone lenses between 5 feet to 20 feet thick, is underlain by the Green River Formation. The

Green River Formation is further subdivided into several Member and local marker units. The cyclic nature of Green River deposition in the southern shore area resulted in numerous stacked, intertonguing deltaic and near-shore sand and silt deposits. Red alluvial shale and siltstone deposits that intertongue with the Green River sediments are of the Colton and Wasatch Formations. Under the Wasatch Formation is the Mesaverde Formation, which consists primarily of continental-origin deposits of interbedded shale, sandstone, and coal.

The geologic dip is about 200 feet per mile, and there are no known surface faults in this area. Veins of gilsonite, a natural resinous hydrocarbon occasionally mined as a resource, occurs in the greater Uintah Basin though it is predominantly found on the eastern margin of the basin near the Colorado border. Vertical veins, generally between 2 ft to 6 ft wide but up to 28 ft wide, may extend many miles in length and occasionally extend as deep as 2,000 ft. In this area within the Greater Monument Butte Field there is one known gilsonite vein. This vein is not considered to present a pathway for migration of fluid out of the injection zone because it terminates at depth of about 2,000 ft, far above the protective confining layer and much deeper injection zone. Newfield and the owner of this former gilsonite mine have agreed to conditions for operation near this vein to ensure no potential for impact to this vein or to ground water from enhanced oil recovery operations.

**TABLE 2.1**  
**GEOLOGIC SETTING**  
**Federal 11-8-9-18**

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta: USDW	0	555	< 10,000	Sand and shale.
Uinta	555	1,289		Interbedded sand, shale and carbonate, and fluvial sand and shale.
Green River	1,289	5,883		Interbedded sand, shale and carbonate, and fluvial sand and shale.
Green River: Trona	2,784	2,843		Evaporite
Green River: Mahogany Bench	2,843	2,860		Oil shale.
Green River: Garden Gulch Member	3,621	4,557	27,891	Interbedded lacustrine sand, shale and carbonate and fluvial sand and shale.
Green River: Douglas Creek Member	4,557	5,758	27,891	Interbedded lacustrine sand, shale and carbonate with fluvial sand and shale.
Green River: Basal Carbonate	5,758	5,883		Carbonate

#### **Proposed Injection Zone(s) (TABLE 2.2)**

An injection zone is a geological formation, group of formations, or part of a formation that receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review.

The EPA approved interval for Class II enhanced recovery injection for Federal 11-8-9-18 is located between the top of the Garden Gulch Member No. 2 (3,905 feet) and the top of the Wasatch Formation estimated to be 5,883 feet.

**TABLE 2.2**  
**INJECTION ZONES**  
**Federal 11-8-9-18**

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Green River: Garden Gulch, Douglas Creek & Basal Carbonate Members.	3,905	5,883	27,891	0.690		N/A

\* C - Currently Exempted  
E - Previously Exempted  
P - Proposed Exemption  
N/A - Not Applicable

#### **Confining Zone(s) (TABLE 2.3)**

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3.

The 85-foot (3,820 feet - 3,905 feet) "B" Shale Confining Zone directly overlies the top of the Garden Gulch Member No. 2. The "B" Shale contains 74 feet of 80% bond index cement bond.

**TABLE 2.3**  
**CONFINING ZONES**  
**Federal 11-8-9-18**

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Green River: Garden Gulch Member "B" Shale	Shale with thin argillaceous siltstone beds.	3,820	3,905

#### **Underground Sources of Drinking Water (USDWs) (TABLE 2.4)**

Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

Throughout the Greater Monument Butte Field area undergoing enhanced oil recovery operations, water analyses of the Green River Formation generally exhibit total dissolved solids (TDS) content well in excess of 10,000 mg/l. However, some recent water analyses from the field showed lower TDS values closer to 10,000 mg/l. While rain and surface water recharge into Green River Formation outcrops further south along the Book Cliffs/Roan Cliffs in effect "freshens" the Green River Formation water near those outcrops, in this area of the Monument Butte Field the observed occasional 'freshening' is ascribed to the effective dilution of the originally in-place high TDS water from injection of relatively fresh water for enhanced oil recovery operations. Water samples from deeper Mesaverde Formation sands in the nearby Natural Buttes Unit yield highly saline water.

The State of Utah "Water Wells and Springs" identifies no public water supply wells within the one-quarter (1/4) mile Area-of-Review (AOR) around the Federal 11-8-9-18.

Technical Publication No. 92: State of Utah, Department of Natural Resources, cites the base of Underground Sources of Drinking Water (USDW) in the Uinta Formation approximately 555 feet from the surface. However, absent definitive information relative to the water quality of the Uinta Formation, from the depth of 555 feet to the base of the Uinta Formation (1,289 feet), the EPA will require, during plugging and abandonment, a cement plug at the base of the Uinta Formation to protect contamination of possible Uinta USDWs.

**TABLE 2.4**  
**UNDERGROUND SOURCES OF DRINKING WATER (USDW)**  
**Federal 11-8-9-18**

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uinta	Sand and shale.	0	555	< 10,000
Uinta	Interbedded lacustrine sand, shale and carbonate with fluvial sand and shale.	555	1,289	

### **PART III. Well Construction (40 CFR 146.22)**

See diagram.

The Federal 11-8-9-18 was drilled to a total depth of 5,952 feet (KB) in the Wasatch Formation (Estimated top 5,883 feet). Plug back total depth (PBSD) is 5,897 feet.

Surface casing (8-5/8 inch) was set at a depth of 310 feet in a 12-1/4 inch hole using 160 sacks of Class "G" cement which was circulated to the surface.

Production casing (5-1/2 inch) was set at a depth of 5,952 feet (KB) in a 7-7/8 inch hole with 350 sacks of Premium Lite II and 450 sacks of 50/50 poz mix. This well construction is considered adequate to protect USDWs.

The EPA calculates the top of cement as 765 feet from the surface. The Cement Bond Log (CBL) identifies top of cement at 50 feet. CBL analysis does identify 74 feet of 80% bond index cement bond within the 85-foot "B" Shale Confining Zone.

The schematic diagram shows enhanced recovery injection perforations in the Garden Gulch and Douglas Creek Members of the Green River Formation. Additional perforations may be added at a later time between the depths of 3,905 feet and the top of the Wasatch Formation (Estimated to be 5,883 feet) provided the operator first notifies the Director and later submits an updated well completion report (EPA Form 7520-12) and schematic diagram.

The packer will be set no higher than 100 feet above the top perforation.

**TABLE 3.1**  
**WELL CONSTRUCTION REQUIREMENTS**  
**Federal 11-8-9-18**

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
Production	7.88	5.50	0 - 5,952	0 - 5,952
Surface	12.25	8.63	0 - 310	0 - 310

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1) provided written approval is obtained from the Director prior to actual modification.

#### **Casing and Cementing (TABLE 3.1)**

The well construction plan was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for this "new" injection well is shown in TABLE 3.1.

Remedial cementing may be required if the casing cement is shown to be inadequate by cement bond log or other demonstration of Part II (External) mechanical integrity.

#### **Tubing and Packer**

Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

#### **Tubing-Casing Annulus (TCA)**

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director.

The tubing/casing annulus must be kept open at all times so that it can be monitored as required under conditions of the Permit.

#### **Monitoring Devices**

The permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

## PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

**TABLE 4.1**  
**AOR AND CORRECTIVE ACTION**

Well Name	Type	Status (Abandoned Y/N)	Total Depth (ft)	TOC Depth (ft)	CAP Required (Y/N)
Federal 10-8-9-18	Producer	No	5,925	950	No
Federal 12-8-9-18	Producer	No	5,932	1,784	Yes
Federal 14-8-9-18	Producer	No	5,855	60	No
Federal 6-8-9-18	Producer	No	5,900	120	No

TABLE 4.1 lists the wells in the Area of Review ("AOR") and shows the well type, operating status, depth, top of casing cement ("TOC") and whether a Corrective Action Plan ("CAP") is required for the well.

### Area Of Review

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

### Corrective Action Plan

For wells in the AOR which are improperly sealed, completed, or abandoned, the applicant shall develop a Corrective Action Plan (CAP) consisting of the steps or modifications that are necessary to prevent movement of fluid into USDWs.

The CAP will be incorporated into the Permit as APPENDIX F and become binding on the permittee.



## PART V. Well Operation Requirements (40 CFR 146.23)

**TABLE 5.1**  
**INJECTION ZONE PRESSURES**  
Federal 11-8-9-18

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Green River: Garden Gulch, Douglas Creek & Basal Carbonate Members.	4,074	0.690	1,020

### Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

The proposed injectate shall be a blend of culinary quality from the Johnson Water District reservoir and/or water from the Green River pipeline, and produced Green River Formation water from wells proximate to the Federal 11-8-9-18.

### Injection Pressure Limitation

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d$$

- FP = formation fracture pressure (measured at surface)
- fg = fracture gradient (from submitted data or tests)
- sg = specific gravity (of injected fluid)
- d = depth to top of injection zone (or top perforation)

### **Injection Volume Limitation**

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

There will be no restrictions on the cumulative volume or daily volume of authorized Class II fluid injected into the approved Green River Formation interval.

### **Mechanical Integrity (40 CFR 146.8)**

An injection well has mechanical integrity if:

1. there is no significant leak in the casing, tubing, or packer (Part I); and
2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity.

The Permit requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

Well construction and site-specific conditions dictate the following requirements for Mechanical Integrity (MI) demonstrations:

PART I MI: Internal MI will be demonstrated prior to beginning injection. Since this well is constructed with a standard casing, tubing, and packer configuration, a successful mechanical integrity test (MIT) is required to take place at least once every five (5) years. A demonstration of Part I MI is also required prior to resuming injection following any workover operation that affects the casing, tubing or packer. Part I MI may be demonstrated by a standard tubing-casing annulus pressure test using the maximum permitted injection pressure or 1000 psi, whichever is less, with a ten (10) percent or less pressure loss over thirty (30) minutes.

## **PART VI. Monitoring, Recordkeeping and Reporting Requirements**

### **Injection Well Monitoring Program**

At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, annulus pressure, monthly injection flow rate and cumulative fluid volume. This information is required to be reported annually as part of the Annual Report to the Director.

## PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

### Plugging and Abandonment Plan

Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520-13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

The well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs and in accordance with other applicable Federal, State or local law or regulation. Tubing, packers, and any downhole apparatus shall be removed. Class A, C, G, and H cements, with additives such as accelerators and retarders that control or enhance cement properties, may be used for plugs. However, volume extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.2 lb/gal shall be placed between all plugs. Within sixty (60) days after plugging, the owner or operator shall submit Plugging Record (EPA Form 7520-13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. At a minimum, the following plugs are required:

The Federal 11-8-9-18 was drilled to a total depth of 5,952 feet in the Wasatch Formation (Estimated top 5883 feet). Plug back total depth (PBDT) is 5,897 feet. There are fourteen (14) feet of Wasatch shale above PBDT. No cement plug will be required across this minimal shale interval.

PLUG NO. 1: Seal Injection Zone: Set a cast iron bridge plug (CIBP) no more than fifty (50) feet above the top injection perforation. Place at least twenty (20) feet of cement plug on top of the CIBP.

PLUG NO. 2: Seal Mahogany Shale and Trona intervals: Squeeze a cement plug on the backside of the 5-1/2 inch casing across the Trona Zone and the Mahogany Shale approximately 2,735 feet to 2,910 feet (unless pre-existing backside cement precludes cement-squeezing this interval) followed by a minimum 175-foot balanced cement plug inside the 5-1/2 inch casing across the Trona Zone and the Mahogany Shale, approximately 2,735 feet to 2,910 feet.

PLUG NO. 3: Seal USDWs: Squeeze a cement plug (1,230 feet - 1,350 feet) on the backside of the 5-1/2 inch casing across the base of the Uinta formation (unless pre-existing backside cement precludes cement-squeezing this interval), followed by a minimum 120-foot balanced cement plug inside the 5-1/2 inch casing across the base of the Uinta Formation, approximately 1,230 feet to 1,350 feet.

PLUG NO. 4: Seal Surface: Set a Class "G" cement plug within the 5-1/2 inch casing to 605 feet and up the 5-1/2 inch by 8-5/8 inch casings annulus to the surface.

## **PART VIII. Financial Responsibility (40 CFR 144.52)**

### **Demonstration of Financial Responsibility**

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance such as financial statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with:

A demonstration of Financial Responsibility in the amount of \$59,344 has been reviewed and approved by the EPA.

The Director may revise the amount required, and may require the Permittee to obtain and provide updated estimates of plugging and abandonment costs according to the approved Plugging and Abandonment Plan.

Financial Statement, received May 16, 2008

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
USA UTU-16540

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		7. UNIT or CA AGREEMENT NAME: GMBU
3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052		8. WELL NAME and NUMBER: FEDERAL 11-8-9-18
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 1984 FSL 1979 FWL		9. API NUMBER: 4304736344
OTR/OTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NESW, 8, T9S, R18E		10. FIELD AND POOL, OR WILDCAT: GREATER MB UNIT
		COUNTY: UINTAH
		STATE: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON	
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion: 09/08/2010	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL	
	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: -	
	<input checked="" type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The subject well has been converted from a producing oil well to an injection well on 09/09/2010.

On 09/08/2010 Jason Deardorff with the EPA was contacted concerning the initial MIT on the above listed well. On 09/08/2010 the casing was pressured up to 1560 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 150 psig during the test. There was not an EPA representative available to witness the test.

EPA# UT21132-07636 API# 43-047-36344

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) Lucy Chavez-Naupoto TITLE Administrative Assistant  
SIGNATURE  DATE 09/14/2010

(This space for State use only)

**RECEIVED**

**SEP 20 2010**

**DIV. OF OIL, GAS & MINING**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**SUBMIT IN TRIPLICATE - Other Instructions on page 2**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. USA UTU-16540
2. Name of Operator NEWFIELD PRODUCTION COMPANY		6. If Indian, Allottee or Tribe Name.
3a. Address Route 3 Box 3630 Myton, UT 84052	3b. Phone (include area code) 435.646.3721	7. If Unit or CA/Agreement, Name and/or GMBU
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1984 FSL 1979 FWL NESW Section 8 T9S R18E		8. Well Name and No. FEDERAL 11-8-9-18
		9. API Well No. 4304736344
		10. Field and Pool, or Exploratory Area GREATER MB UNIT
		11. County or Parish, State UINTAH, UT

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**


TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	Change Status _____
	<input checked="" type="checkbox"/> Convert to Injector	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: (Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomplate in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The subject well has been converted from a producing oil well to an injection well on 09/09/2010.

On 09/08/2010 Jason Deardorff with the EPA was contacted concerning the initial MIT on the above listed well. On 09/08/2010 the casing was pressured up to 1560 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 150 psig during the test. There was not an EPA representative available to witness the test.

EPA# UT21132-07636 API# 43-047-36344

I hereby certify that the foregoing is true and correct (Printed/ Typed) Lucy Chavez-Naupoto	Title Administrative Assistant
Signature 	Date 09/14/2010

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by _____	Title _____	Date _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office _____	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on page 2)

**RECEIVED**

**SEP 20 2010**

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 09/13/2016  
Test conducted by: Lynn Morson  
Others present: \_\_\_\_\_

Well Name: <u>Federal 11-8-9-18</u>	Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Monument Butte</u>		
Location: <u>NE/SW</u> Sec: <u>8</u> T <u>9</u> N <u>18</u> E/W County: <u>Uintah</u> State: <u>UT</u>		
Operator: <u>NewField</u>		
Last MIT: <u>1</u> / <u>1</u>		Maximum Allowable Pressure: _____ PSIG

Is this a regularly scheduled test? ☐ Yes ☒ No  
Initial test for permit? ☒ Yes ☐ No  
Test after well rework? ☐ Yes ☒ No  
Well injecting during test? ☐ Yes ☒ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>150</u> psig	psig	psig
End of test pressure	<u>150</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1560</u> psig	psig	psig
5 minutes	<u>1560</u> psig	psig	psig
10 minutes	<u>1560</u> psig	psig	psig
15 minutes	<u>1560</u> psig	psig	psig
20 minutes	<u>1560</u> psig	psig	psig
25 minutes	<u>1560</u> psig	psig	psig
30 minutes	<u>1560</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

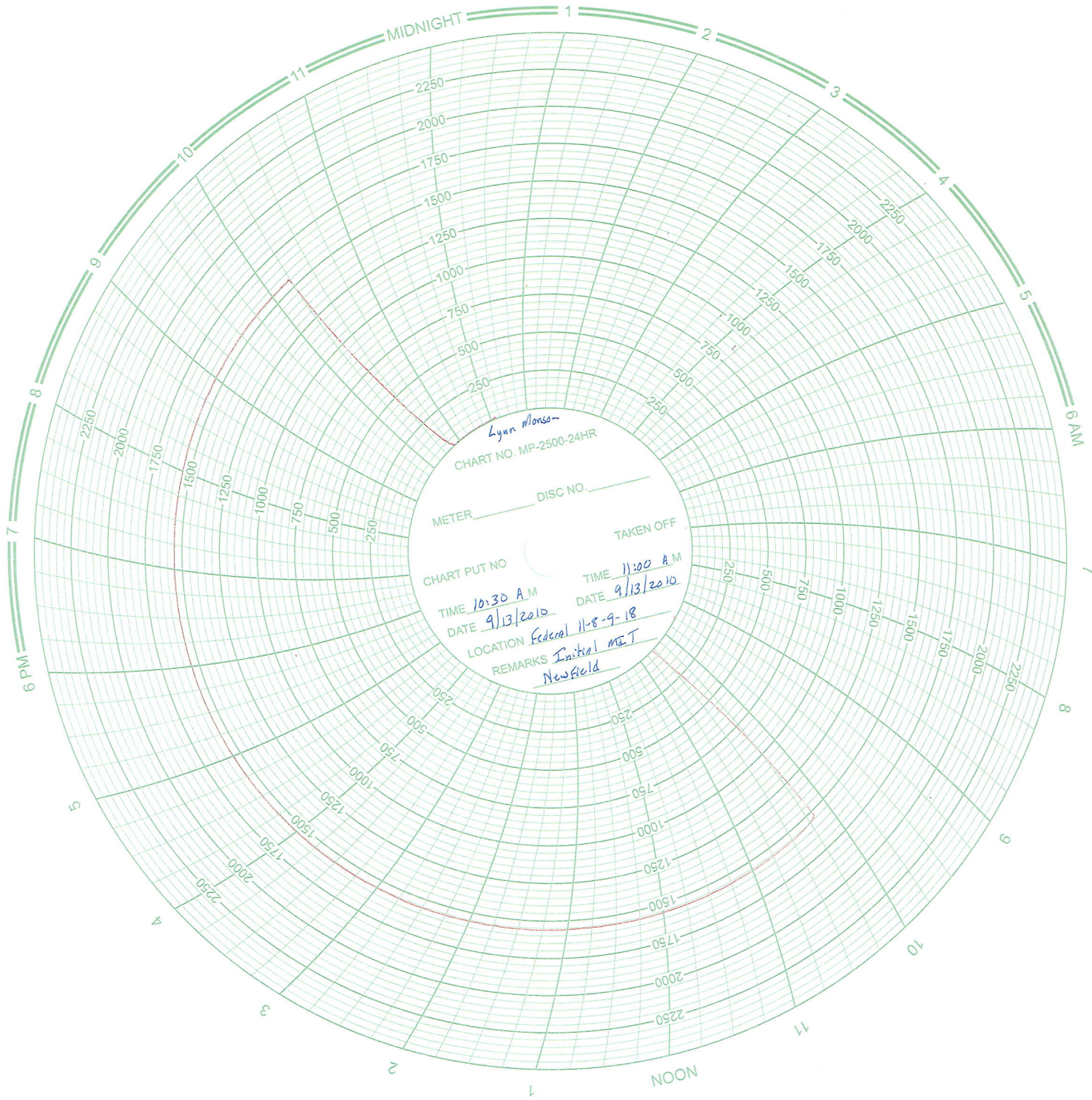
Does the annulus pressure build back up after the test? ☐ Yes ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_





**Daily Activity Report****Format For Sundry****FEDERAL 11-8-9-18****7/1/2010 To 11/30/2010****9/7/2010 Day: 3****Conversion**

Nabors #809 on 9/7/2010 - Washed over stuck tbg. TOH & LD DC's & WP. TIH W/ overshot. - RU HO trk & flush tbg W/ 30 BW. Con't TOH & LD remaining rods and pump. ND wellhead. Work to release TA W/ no success. Strip on & NU BOP. PU 1 jt tbg & work stuck TA W/ tongs--no success. RU HO trk & pump 110 BW dn annulus @/ 250°F. RU power swivel & work TA--no success. RU Perforators WLT & packoff. RIH W/ freepoint tool. Found stuck @ TA. RIH & chemical cut off tbg 5' below TA. RD WLT. Release TA. TOH & talley tbg. LD TA & tbg stub. SIFN. - RU HO trk & flush tbg W/ 30 BW. Con't TOH & LD remaining rods and pump. ND wellhead. Work to release TA W/ no success. Strip on & NU BOP. PU 1 jt tbg & work stuck TA W/ tongs--no success. RU HO trk & pump 110 BW dn annulus @/ 250°F. RU power swivel & work TA--no success. RU Perforators WLT & packoff. RIH W/ freepoint tool. Found stuck @ TA. RIH & chemical cut off tbg 5' below TA. RD WLT. Release TA. TOH & talley tbg. LD TA & tbg stub. SIFN. - MIRU Nabors rig #809. RU HO trk to annulus & pump 60 BW @ 250°F. RU pumping unit & unseat rod pump. Flush tbg & rods W/ 30 BW @ 250°F. Re-seat pump, soft joint rod string & strip off flow-T. Fill tbg W/ 15 BW. Pressure test tbg to 3000 psi. Retrieve rod string & unseat pump. TOH & LD 103 rods. Re-flushed rods W/ add'l 30 BW. PU polished rod & SIFN. - MU & RIH W/ 4 1/2" mill shoe, 3 jts 4 1/2" WP, X-O, bumper sub, jars, X-O, 2-3 1/2" DC's, X-O, intensifier, X-O N-80 tbg sub and tbg to TOF @ 5779'. RU power swivel. Break circulation W/ 80 BW. Mill 1 1/2 jts & fish fell. Chase to btm. Circ hole clean. RD swivel. TOH W/ tbg. LD DC's & WP. TIH W/ 3 3/4" overshot (W/ 2 7/8 spiral grapple), bumper sub, jars, X-O & tbg to 4430'. SIFN. - RU HO trk & flush tbg W/ 30 BW. Con't TOH & LD remaining rods and pump. ND wellhead. Work to release TA W/ no success. Strip on & NU BOP. PU 1 jt tbg & work stuck TA W/ tongs--no success. RU HO trk & pump 110 BW dn annulus @/ 250°F. RU power swivel & work TA--no success. RU Perforators WLT & packoff. RIH W/ freepoint tool. Found stuck @ TA. RIH & chemical cut off tbg 5' below TA. RD WLT. Release TA. TOH & talley tbg. LD TA & tbg stub. SIFN. - MIRU Nabors rig #809. RU HO trk to annulus & pump 60 BW @ 250°F. RU pumping unit & unseat rod pump. Flush tbg & rods W/ 30 BW @ 250°F. Re-seat pump, soft joint rod string & strip off flow-T. Fill tbg W/ 15 BW. Pressure test tbg to 3000 psi. Retrieve rod string & unseat pump. TOH & LD 103 rods. Re-flushed rods W/ add'l 30 BW. PU polished rod & SIFN. - MU & RIH W/ 4 1/2" mill shoe, 3 jts 4 1/2" WP, X-O, bumper sub, jars, X-O, 2-3 1/2" DC's, X-O, intensifier, X-O N-80 tbg sub and tbg to TOF @ 5779'. RU power swivel. Break circulation W/ 80 BW. Mill 1 1/2 jts & fish fell. Chase to btm. Circ hole clean. RD swivel. TOH W/ tbg. LD DC's & WP. TIH W/ 3 3/4" overshot (W/ 2 7/8 spiral grapple), bumper sub, jars, X-O & tbg to 4430'. SIFN. - MU & RIH W/ 4 1/2" mill shoe, 3 jts 4 1/2" WP, X-O, bumper sub, jars, X-O, 2-3 1/2" DC's, X-O, intensifier, X-O N-80 tbg sub and tbg to TOF @ 5779'. RU power swivel. Break circulation W/ 80 BW. Mill 1 1/2 jts & fish fell. Chase to btm. Circ hole clean. RD swivel. TOH W/ tbg. LD DC's & WP. TIH W/ 3 3/4" overshot (W/ 2 7/8 spiral grapple), bumper sub, jars, X-O & tbg to 4430'. SIFN. - MIRU Nabors rig #809. RU HO trk to annulus & pump 60 BW @ 250°F. RU pumping unit & unseat rod pump. Flush tbg & rods W/ 30 BW @ 250°F. Re-seat pump, soft joint rod string & strip off flow-T. Fill tbg W/ 15 BW. Pressure test tbg to 3000 psi. Retrieve rod string & unseat pump. TOH & LD 103 rods. Re-flushed rods W/ add'l 30 BW. PU polished rod & SIFN.

**Daily Cost:** \$0**Cumulative Cost:** \$83,252**9/8/2010 Day: 4****Conversion**

Nabors #809 on 9/8/2010 - Fished tbg. LD tools & fish. Made bit & scraper run. Start TOH W/

production string. - Con't TIH W/ fishing BHA to TOF @ 5779'. Work over fishtop. Pull 5K over string wt & seems to be free. TOH W/ tbg---no fish. Inspect grapple--looks fine. Add 4 extension to overshot & TIH W/ same BHA. Able to work over fishtop 4' deeper. Seem to have fish. RU HO trk & flush tbg (trickle down backside while TOH). TOH W/ tbg. Recovered fish (cut off jt, SN, 2 jts & NC). BO & LD fishing tools. MU & TIH W/ 4 3/4" tooth bit, 5 1/2" casing scraper & tbg. Tag PBD @ 5832'. LD 11 jts work string. TOH W/ 60 jts tbg. Break each connection, clean & inspect pins and apply Liquid O-ring to pins. SIFN.

**Daily Cost:** \$0

**Cumulative Cost:** \$104,271

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**9/9/2010 Day: 5****Conversion**

Nabors #809 on 9/9/2010 - Finish TOH W/ bit & scraper. TIH W/ packer & test injection string. - RU HO trk & flush tbg W/ 30 BW @ 250°F. Con't TOH W/ tbg. Break each connection, clean & inspect pins and apply Liquid O-ring to pins. LD btm 47 jts & bit & scraper. MU & TIH W/ new Weatherford 5 1/2" Arrowset 1-X packer (W/ wicker slips & W.L. re-entry guide), new 2 7/8 SN and 125 jts 2 7/8 8rd 6.5# J-55 tbg. Re-torque each connection on TIH. RU HO trk & pump 10 bbls pad. Drop standing valve & pump to SN. Pressure test tbg to 3000 psi. Bled air & re-bumped pressure several times. Leave 3000 psi on tbg overnight.

**Daily Cost:** \$0

**Cumulative Cost:** \$111,028

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**9/10/2010 Day: 6****Conversion**

Nabors #809 on 9/10/2010 - Confirmed tbg test. Set & test packer. RDMOSU. - Perform MIT. Run Vaughn Energy Services & run gyro survey. - SITP @ 2700 psi. Bleed off air. RU HO trk & bump up to 3000 psi. Final test held solid for 30 minutes. Retrieve standing valve W/ overshot on sandline. ND BOP & land tbg on flange. Mix 15 gals Multi-Chem C-6031 & 5 gals B-8850 in 70 bbls fresh water. Pump dn annulus @ 90°F. PU on tbg & set pkr W/ SN @ 3674', CE @ 3979' & EOT @ 3983'. Land tbg W/ 15,000# tension. NU wellhead. Pressure test annulus & pkr to 1500 psi. Holds solid for 1 hour. RDMOSU.

**Daily Cost:** \$0

**Cumulative Cost:** \$115,490

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**9/13/2010 Day: 7****Conversion**

Rigless on 9/13/2010 - MIT on Well - On 9/8/2010 Jason Deardorff with the EPA was contacted concerning the initial MIT on the above listed well (Federal 11-8-9-18). On 9/8/2010 the csg was pressured up to 1560 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbg pressure was 150 psig during the test. There was not an EPA representative available to witness the test. EPA# UT21132-07636 API# 43-047-36344 **Finalized**

**Daily Cost:** \$0

**Cumulative Cost:** \$140,810

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**Pertinent Files: Go to File List**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

OCT 05 2010

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Michael Guinn  
District Manager  
Newfield Production Company  
Route 3 - Box 3630  
Myton, UT 84052

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

RE: Underground Injection Control (UIC)  
Authorization to Commence Injection  
EPA UIC Permit UT21132-07636  
Well: Federal 11-8-9-18  
NESW Sec. 8-T9S-R1E 18E  
Uintah County, UT  
API No.: 43-047-36344

Dear Mr. Guinn:

The U.S. Environmental Protection Agency (EPA), Region 8, has received Newfield Production Company's (Newfield) September 14, 2010, letter with enclosures. The enclosed Part I (internal) Mechanical Integrity test, Well Rework Record (EPA Form 7520-12), schematic diagram, and calculated pore pressure were reviewed and approved by EPA, satisfactorily completing all Prior to Commencing Injection Requirements for UIC Permit UT21132-07636.

As of the date of this letter, Newfield is authorized to commence injection into the Federal 11-8-9-18 well at a Maximum Allowable Injection Pressure (MAIP) of 1,020 psig. You may apply for a higher MAIP at a later date. Your application should be accompanied by the interpreted results of a step rate test that measures the fracture parting pressure and calculates the fracture gradient at this depth and location. Newfield must receive prior authorization from the Director to inject at pressures greater than the permitted MAIP during any test.

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**OCT 21 2010**

**DIV. OF OIL, GAS & MINING**

As of this approval, responsibility for permit compliance and enforcement is transferred to EPA's UIC Technical Enforcement Program. Therefore, please direct all monitoring and compliance correspondence to Nathan Wiser at the following address, referencing the well name and UIC Permit number on all correspondence:

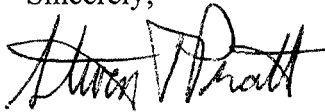
Mr. Nathan Wiser  
U.S. EPA Region 8: 8ENF-UFO  
1595 Wynkoop Street  
Denver, CO 80202-1129

Or, you may reach Mr. Wiser by telephone at 303-312-6211 or 1 800-227-8927, ext. 312-6211.

Please remember that it is your responsibility to be aware of and to comply with all conditions of injection well Permit UT21132-07636.

If you have questions regarding the above action, please call Emmett Schmitz at 303-312-6174 or 1-800-227-8917, ext. 312-6174.

Sincerely,



for Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

cc: Uintah & Ouray Business Committee:  
Frances Poowegup, Vice-Chairwoman  
Curtis Cesspooch, Councilman  
Phillip Chimburas, Councilman  
Stewart Pike, Councilman  
Irene Cuch, Councilwoman  
Richard Jenks, Jr., Councilman

Daniel Picard  
BIA - Uintah & Ouray Indian Agency

Mike Natchees  
Environmental Coordinator  
Ute Indian Tribe

Manual Myore  
Director of Energy & Minerals Dept.  
Ute Indian Tribe

Brad Hill  
Acting Associate Director  
Utah Division of Oil, Gas, and Mining

Fluid Minerals Engineering Office  
BLM - Vernal Office

Eric Sundberg, Regulatory Analyst  
Newfield Production Company





STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
USA UTU-16540

**SUNDRY NOTICES AND REPORTS ON WELLS**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
GMBU

8. WELL NAME and NUMBER:  
FEDERAL 11-8-9-18

9. API NUMBER:  
4304736344

10. FIELD AND POOL, OR WILDCAT:  
GREATER MB UNIT

1. TYPE OF WELL:

OIL WELL ☒ GAS WELL ☐ OTHER

2. NAME OF OPERATOR:

NEWFIELD PRODUCTION COMPANY

3. ADDRESS OF OPERATOR:

Route 3 Box 3630 CITY Myton STATE UT ZIP 84052

PHONE NUMBER

435.646.3721

4. LOCATION OF WELL:

FOOTAGES AT SURFACE: 1984 FSL 1979 FWL

COUNTY: Uintah

OTR/OTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: NESW, 8, T9S, R18E

STATE: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will 11/01/2010	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input checked="" type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/STOP) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLAIR <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: - Put on Injection
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The above reference well was put on injection at 3:30 PM on 11/01/2010.

EPA # UT21132-07636 API # 43-047-36344

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

**RECEIVED**

**NOV 08 2010**

**DIV. OF OIL, GAS & MINING**

NAME (PLEASE PRINT) Lucy Chavez-Naupoto

TITLE Administrative Assistant

SIGNATURE

DATE 11/02/2010

(This space for State use only)



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-16540
<b>1. TYPE OF WELL</b> Water Injection Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> NEWFIELD PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b> GMBU (GRRV)
<b>3. ADDRESS OF OPERATOR:</b> Rt 3 Box 3630 , Myton, UT, 84052		<b>8. WELL NAME and NUMBER:</b> FEDERAL 11-8-9-18
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1984 FSL 1979 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 08 Township: 09.0S Range: 18.0E Meridian: S		<b>9. API NUMBER:</b> 43047363440000
<b>PHONE NUMBER:</b> 435 646-4825 Ext		<b>9. FIELD and POOL or WILDCAT:</b> 8 MILE FLAT NORTH
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 7/28/2015	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: <input type="text" value="5 YR MIT"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. 5 YR MIT performed on the above listed well. On 07/28/2015 the casing was pressured up to 1517 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbq pressure was 1140 psig during the test. There was not an EPA representative available to witness the test. EPA #UT22197-07636		
<b>NAME (PLEASE PRINT)</b> Lucy Chavez-Naupoto		<b>PHONE NUMBER</b> 435 646-4874
<b>SIGNATURE</b> N/A		<b>TITLE</b> Water Services Technician
<b>DATE</b> 7/31/2015		<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> August 04, 2015

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 7/28/15  
Test conducted by: Jimmy Daniels  
Others present: \_\_\_\_\_

Well Name: <u>Federal 11-89-15</u>	Type: ER SWD	Status: AC TA UC
Field: <u>Gimby</u>		
Location: <u>NE/SW</u> Sec: <u>8</u> T <u>9</u> N <u>18</u> R <u>18</u> E/W	County: <u>Lincoln</u>	State: <u>NE</u>
Operator: <u>NEX</u>		
Last MIT: <u>1</u> / <u>1</u>	Maximum Allowable Pressure: <u>1208</u>	PSIG

Is this a regularly scheduled test? ☒ Yes ☐ No  
Initial test for permit? ☐ Yes ☒ No  
Test after well rework? ☐ Yes ☒ No  
Well injecting during test? ☐ Yes ☒ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0/1140 psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING</b>	<b>PRESSURE</b>		
Initial Pressure	<u>1140</u> psig	psig	psig
End of test pressure	<u>1140</u> psig	psig	psig
<b>CASING / TUBING</b>	<b>ANNULUS</b>	<b>PRESSURE</b>	
0 minutes	<u>1517</u> psig	psig	psig
5 minutes	<u>1517</u> psig	psig	psig
10 minutes	<u>1517</u> psig	psig	psig
15 minutes	<u>1517</u> psig	psig	psig
20 minutes	<u>1517</u> psig	psig	psig
25 minutes	<u>1517</u> psig	psig	psig
30 minutes	<u>1517</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

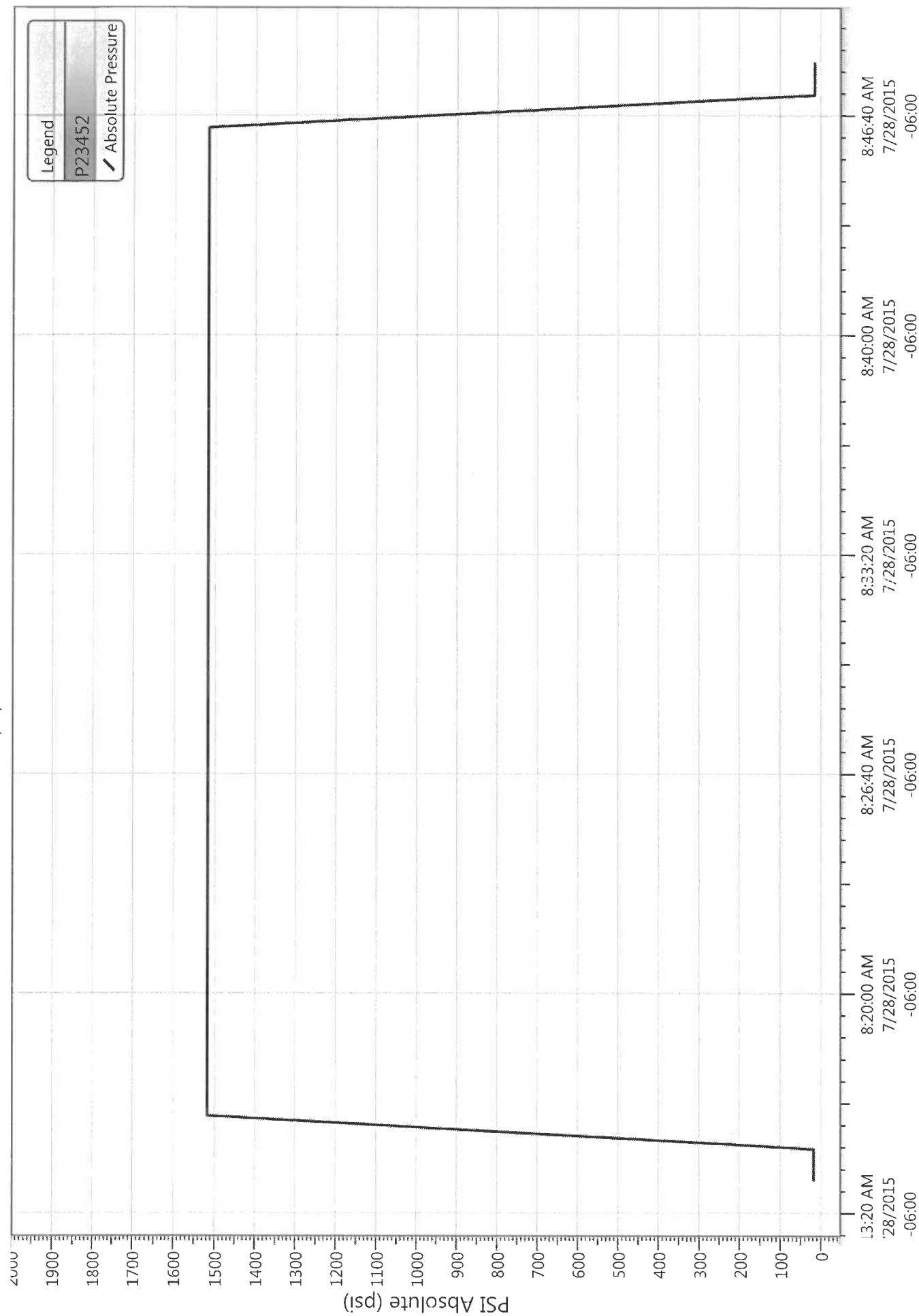
Does the annulus pressure build back up after the test? ☐ Yes ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: Jimmy Daniels

11 8 9 18 5 Year MIT  
7/28/2015 8:13:47 AM



## NEWFIELD



## Schematic

43-047-36344

Well Name: Federal 11-8-9-18

Surface Legal Location 08-9S-18E	API/UWI 43047363440000	Well RC 500160427	Lease	State/Province Utah	Field Name GMBU CTB10	County Uintah
Spud Date 4/14/2006	Rig Release Date 8/15/2006	On Production Date 9/15/2006	Original KB Elevation (ft) 5,055	Ground Elevation (ft) 5,043	Total Depth All (TVD) (ftKB) PBD (All) (ftKB) Original Hole - 5,906.8	

## Most Recent Job

Job Category Testing	Primary Job Type	Secondary Job Type N/A	Job Start Date 7/28/2015	Job End Date 7/28/2015
-------------------------	------------------	---------------------------	-----------------------------	---------------------------

TD: 5,954.0

Vertical - Original Hole, 3/30/2016 9:52:02 AM

MD (ftKB)	TVD (ftKB)	Incl (°)	DLS	Vertical schematic (actual)
			DLS (°... 0.0 — 0.6	
12.1	12.1	0.0		
49.9	49.9	0.1		
309.4	309.4	0.1		
310.4	310.4	0.1		1; Surface; 8 5/8 in; 8.097 in; 12-310 ftKB; 298.29 ft
3,974.4	3,973.4	1.9		2-1; Tubing; 2 7/8; 2,441; 12-3,974; 3,962.40
3,975.4	3,974.4	1.9		2-2; Seating Nipple; 2 7/8; 2,441; 3,974-3,976; 1.10
3,982.9	3,981.9	1.9		2-3; Packer; 5 1/2; 3,976-3,983; 7.50
4,074.1	4,073.1	1.9		
4,089.9	4,088.8	1.9		Perforated; 4,074-4,090; 9/11/2006
4,142.1	4,141.0	2.0		Perforated; 4,142-4,148; 9/11/2006
4,148.0	4,146.9	2.0		
5,351.0	5,349.3	1.9		Perforated; 5,351-5,365; 9/11/2006
5,365.2	5,363.4	1.9		
5,453.1	5,451.3	2.0		Perforated; 5,453-5,466; 8/28/2006
5,465.9	5,464.0	2.0		
5,490.2	5,488.3	2.0		Perforated; 5,490-5,514; 8/28/2006
5,514.1	5,512.2	2.0		
5,832.0	5,830.0	2.1		
5,897.0	5,894.9	2.2		
5,906.8	5,904.7	2.2		
5,907.5	5,905.4	2.2		
5,951.8	5,949.6	2.2		
5,952.4	5,950.3	2.2		2; Production; 5 1/2 in; 4,950 in; 12-5,952 ftKB; 5,940.35 ft
5,954.1	5,951.9	2.2		

# NEWFIELD



## Newfield Wellbore Diagram Data Federal 11-8-9-18

Surface Legal Location 08-9S-18E		API/UWI 43047363440000		Lease	
County Uintah	State/Province Utah		Basin	Field Name GMBU CTB10	
Well Start Date 4/14/2006	Spud Date 4/14/2006		Final Rig Release Date 8/15/2006	On Production Date 9/15/2006	
Original KB Elevation (ft) 5,055	Ground Elevation (ft) 5,043	Total Depth (ftKB) 5,954.0		Total Depth All (TVD) (ftKB)	PBTD (All) (ftKB) Original Hole - 5,906.8

### Casing Strings

Csg Des	Run Date	OD (in)	ID (in)	Wt/Len (lb/ft)	Grade	Set Depth (ftKB)
Surface	4/15/2006	8 5/8	8.097	24.00	J-55	310
Production	8/15/2006	5 1/2	4.950	15.50	J-55	5,952

### Cement

#### String: Surface, 310ftKB 4/16/2006

Cementing Company BJ Services Company	Top Depth (ftKB) 12.0	Bottom Depth (ftKB) 310.3	Full Return?	Vol Cement Ret (bbl)
Fluid Description 2% CaCl+ 1/4#/sk Cello Flake	Fluid Type Lead	Amount (sacks) 160	Class G	Estimated Top (ftKB) 12.0

#### String: Production, 5,952ftKB 8/15/2006

Cementing Company BJ Services Company	Top Depth (ftKB) 50.0	Bottom Depth (ftKB) 5,954.0	Full Return?	Vol Cement Ret (bbl)
Fluid Description 10% gel+ 3% KCL+ 3#/sk CSE+ 2#/sk Kolseal+ 1/2#/sk Cello Flake	Fluid Type Lead	Amount (sacks) 350	Class Premlite II	Estimated Top (ftKB) 50.0
Fluid Description 2% gel+ 3% KCL+ 0.5%EC1+1/4#/sk CF+ 2% gel+ 3% SM	Fluid Type Tail	Amount (sacks) 450	Class 50/50 POZ	Estimated Top (ftKB) 3,002.0

### Tubing Strings

Tubing Description					Run Date		Set Depth (ftKB)	
Tubing					9/8/2010		3,983.0	
Item Des	Jts	OD (in)	ID (in)	Wt (lb/ft)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)
Tubing	125	2 7/8	2.441	6.50	J-55	3,962.40	12.0	3,974.4
Seating Nipple		2 7/8	2.441			1.10	3,974.4	3,975.5
Packer		5 1/2				7.50	3,975.5	3,983.0

### Rod Strings

Rod Description		Run Date			Set Depth (ftKB)		
Item Des	Jts	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)

### Other In Hole

Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date
Fill	5,897	5,907	8/15/2006	
Fill	5,832	5,897	9/7/2010	

### Perforation Intervals

Stage#	Zone	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Phasing (")	Nom Hole Dia (in)	Date
3	GB4, Original Hole	4,074	4,090	4	90	0.430	9/11/2006
3	GB6, Original Hole	4,142	4,148	4	90	0.430	9/11/2006
2	CP .5, Original Hole	5,351	5,365	4	90	0.430	9/11/2006
1	CP2, Original Hole	5,453	5,466	4	120	0.460	8/28/2006
1	CP3, Original Hole	5,490	5,514	4	120	0.460	8/28/2006

### Stimulations & Treatments

Stage#	ISIP (psi)	Frac Gradient (psi/ft)	Max Rate (bbl/min)	Max PSI (psi)	Total Clean Vol (bbl)	Total Slurry Vol (bbl)	Vol Recov (bbl)
1	1,400	0.69	25.7	1,998			
2	1,450	0.7	25.3	1,890			
3	2,100	0.94	24.9	2,214			

### Proppant

Stage#	Total Prop Vol Pumped (lb)	Total Add Amount
1		Proppant Sand 139320 lb
2		Proppant Sand 39720 lb
3		Proppant Sand 98465 lb